

5-2013

A Feasability Study for Local Food System Application of a Peer Group Lending Microfinance Model

Anna V. Whitener
Clemson University

Follow this and additional works at: https://tigerprints.clemson.edu/all_theses

 Part of the [Urban, Community and Regional Planning Commons](#)

Recommended Citation

Whitener, Anna V., "A Feasability Study for Local Food System Application of a Peer Group Lending Microfinance Model" (2013). *All Theses*. 2305.

https://tigerprints.clemson.edu/all_theses/2305

This Thesis is brought to you for free and open access by the Theses at TigerPrints. It has been accepted for inclusion in All Theses by an authorized administrator of TigerPrints. For more information, please contact kokeefe@clemson.edu.

A FEASABILITY STUDY FOR LOCAL FOOD SYSTEM APPLICATION OF A
PEER GROUP LENDING MICROFINANCE MODEL

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of City and Regional Planning

by
Anna V. Whitener
May 2013

Accepted by:
Dr. Caitlin Dyckman, Committee Chair
Tim Green
Dr. Lori Dickes
Dr. Cliff Ellis

ABSTRACT

Economic development has evolved since the Great Depression era in the United States from a stance of pure “smokestack chasing” to a more diverse set of strategies aimed at business retention and expansion. One method that has been successfully used domestically and internationally is the use of microloans to finance small businesses. One major component of microfinance strategies used abroad that allows for lower transaction costs is the use of Peer Group Lending Programs (PGLPs). This paper first reviews the cited social, political, and financial reasons for the lack of such programs in U.S. microfinance initiatives. It simultaneously addresses why these American characteristics may not be as limiting as touted to be and proposes a hypothesis that certain groups may be well aligned to take advantage of a PGLP financing mechanism. Beginning farmers associated with farm incubators are targeted as a group for such consideration due to their affiliation with a local food system, the expected social cohesion among them, and their likely need for alternative means of financing. This hypothesis is tested with a survey of such farmers and analysis of their responses. The results indicate that there is some support for PGLPs amongst incubator farmers. Based on the survey responses, those who are heavily reliant upon farmers and mentors only within their incubator and those that are willing to borrow from other sources represent the most promising targets of a successful PGLP financing strategy.

DEDICATION

To the late Jack Whitener, Jr., whose wisdom continues to guide me.

ACKNOWLEDGMENTS

I would like to first and foremost acknowledge the farmers who participated in this study for taking the time to share with us valuable insights otherwise not easily attainable. Without their responses we would have no data, and therefore, no research findings. Additionally, I am indebted to the amazingly generous farm incubator staff members for their shared time and input and their willingness to distribute survey information on my behalf. I would like to acknowledge committee chair, Professor Tim Green for his initial support in idea generation and his unwavering guidance and energy throughout the research process. Additional thanks are extended to committee members Dr. Caitlin Dyckman and Dr. Lori Dickes for their wisdom and alternative perspectives which helped strengthen this research. If not for initial conversations with Dr. Lori Dickes, Dr. Ken Robinson, Denis Ebodaghe, Gary Spires, Nikki Seibert, and Dr. Dave Lamie I would not have realized the potential for such a study. I also owe thanks to Eva Agudelo Winther and Dr. Hugh Joseph for sharing an invaluable resource with me, without which I likely would not have been able to effectively complete this study. Finally, I must thank Gavin Wiggins, Hannah Crenshaw, and Jan Whitener for their support and understanding during both the stressful and rewarding periods of this process.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
DEDICATION.....	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vii
LIST OF FIGURES	viii
LIST OF APPENDICES	ix
CHAPTER	
I. INTRODUCTION	1
II. REVIEW OF LITERATURE	4
MICROFINANCE.....	
ORIGINS	4
UNITED STATES APPLICATIONS.....	7
OBSTACLES TO U.S. IMPLEMENTATION.....	11
INSIGHTS INTO THE SUCCESS (OR LACK THEREOF) OF PGLPs	30
LOCAL FOOD SYSTEMS	
DEFINED	32
ALIGNMENT WITH PGLP MICROFINANCE MODELS	34
III. METHODOLOGY	38
DEVELOPING THE SURVEY INSTRUMENT.....	38
DEVELOPING THE SURVEY FRAME	43
IMPLEMENTING THE SURVEY.....	44

IV. ANALYSIS	45
V. FINDINGS AND CONCLUSIONS	47
RESPONDENT AND INCUBATOR CHARACTERISTICS	47
HYPOTHESES	52
HYPOTHESIS I	53
HYPOTHESIS II	55
HYPOTHESIS III	58
ADDITIONAL FINDINGS	60
LIMITATIONS OF THE STUDY	63
RECOMMENDATIONS FOR FURTHER RESEARCH	65
CONCLUSIONS AND FURTHER RESEARCH	66
APPENDICES	68
REFERENCES	99

LIST OF TABLES

Table 1: Challenges to U.S. Microfinance and Supporting Authors	12
Table 2: “Three Group Lending Arrangements and Distribution of Transaction Cost Burdens”	28
Table 3: Fisher’s Exact Results - Strong “Within Incubator” Reliance with Willingness to Participate in a PGLP with Shared Liability	54
Table 4: Fisher’s Exact Results - Strong “Within Incubator” Reliance with Willingness to Participate in a PGLP without Shared Liability	55
Table 5: Fisher’s Exact Results – Utilization of Business/Financial Planning Services with Willingness to Participate in a PGLP without Shared Liability	56
Table 6: Simple Logistic Regression Results – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP with Shared Liability	57
Table 7: Linear Probability Model – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP with Shared Liability	57
Table 8: Simple Logistic Regression Results – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP without Shared Liability	58
Table 9: Linear Probability Model – Composite Willingness to Borrow (WTB Mean Regressed on Willingness to Participate in a PGLP without Shared Liability	58
Table 10: Fisher’s Exact Results – Willingness to Participate in a PGLP with Shared Liability and Region	62
Table 11: Fisher’s Exact Results – Willingness to Participate in a PGLP with Shared Liability and Region	62

LIST OF FIGURES

Figure 1: Average Loan Repayment Rates	7
Figure 2: U.S. PGLPs Compared to Total U.S. Microenterprise Development Programs	10
Figure 3: “Underbanked” Service Industry Growth (2010-2012)	15
Figure 4: Age of Survey Respondents	47
Figure 5: Gender of Survey Respondents.....	48
Figure 6: Participation Status	48
Figure 7: Incubator Size	49
Figure 8: Participation Duration.....	50
Figure 9: Percentage of Respondents with Access to Services and Relative Utilization	52

LIST OF APPENDICES

Appendix A: Farm Incubators in Study	68
Appendix B: Fisher's Exact Tests P-Values.....	69
Appendix C: Survey Responses	70
Appendix D: Survey Flow Chart.....	81
Appendix E: Survey	82

CHAPTER ONE

INTRODUCTION

The desire for economic development is not limited to developing countries. In the United States, agencies at every level of government, as well as a host of independent organizations and university centers, are devoted to the subject. In the midst of a recession that has lasted nearly five years, cities and states across the nation are now especially focused on developing strategies to increase employment and economic activity within their jurisdictions. Since the Great Depression era, there has been a focus in U.S. policy on attracting large companies from other locations via incentives such as tax abatements, subsidies, and low-rent land. Starting in the late 1970s with the decline of federal funding for local economic development programs, states and municipalities have begun shifting their focus from competitive first wave economic development approaches, often referred to as “smokestack chasing”, to a broader range of strategies aimed at business retention and expansion (Eisinger, 1988, Bradshaw and Blakely, 1999, Shaffer and Marcouiller, 2006). One method that has been successfully used outside of the United States is the use of microloans to finance small businesses. The microloan finance strategy was pioneered in the mid-1970s in Bangladesh by Professor Muhammad Yunus and has since grown to be implemented in over 100 countries (MixMarket.org, 2012).

Critical to the success of microfinance and Yunus' award of the Nobel Peace Prize in 2006 has been the innovative use of peer group lending programs (PGLPs). PGLPs rely on peer influence by a group of self-selected individuals to encourage loan repayment. The group members are also often held responsible for defaults by their peers. This shared responsibility leads to an effective selection of reliable borrowers in a market without credit histories and collateral on which to rely. The group members' willingness to "back" their peers also reduces lender risks and costs. Knowledge embedded in social relationships serves a similar function as more bureaucratic routines like credit checks do in the developed world. However, since microfinance's debut in America in the late 1970s, the use of PGLPs by U.S. microfinance institutions (MFIs) has greatly decreased, and they are rarely used today. Based on a 2010 survey, only 6% of respondent MFIs offered a PGLP strategy (FIELD, 2008 and 2012a).

This research begins with a review of the literature on microlending in the United States. In particular, it explores the reasons for minimal use of PGLPs in the U.S. and how that limits the effectiveness and sustainability of U.S. MFIs. Crucial to this exploration is the effect of social capital on the reliance on PGLPs. Thus, a discussion of social capital literature follows. Based on this knowledge, this paper argues that there is an unrecognized opportunity to identify U.S. markets in which social capital exists such that PGLPs can be incorporated. The proposal identifies local food systems as such a market, based on their reliance on local farmers who often interact with and rely upon each other for various

services and product fulfillment and regularly interact with their clients. It then outlines a research project designed to test the possibility of using peer group lending programs, in conjunction with other training and business development services, in the U.S. The chosen market for this study consists of small farmers, particularly those already invested in local food systems, as identified by participation in a farm incubator. The project involved preliminary conversations with farmers and farm incubator staff to identify and refine crucial issues to this inquiry. Once that framework was established, a survey frame was developed using member lists of farm incubators, and a survey was created and conducted via an internet application to garner farm incubator participant perspectives on the subject. Each set of questions is summarized to provide a basic understanding of the respondents, their farm incubation participation, and the challenges and opportunities they identified. (See Appendix C for a full set of summary charts and statistics). Particular relationships are subsequently analyzed using Fisher's exact tests, simple logistic regressions, and linear probability models. This analysis aims to answer the following question: Do farmers associated with farm incubators offer a market for the application of a PGLP microfinance model?

CHAPTER TWO

REVIEW OF LITERATURE

Microfinance

Origins

Microfinance is a concept centered on one primary tool, microlending. In his book *Banker to the Poor*, Muhammad Yunus (2007) explains the journey that led him to start a microlending enterprise in 1976, now known internationally as the Grameen Bank. One may recognize the name of the bank as the winner of the 2006 Nobel Peace Prize. This largely successful strategy for poverty alleviation started when Yunus was shocked to witness the seemingly inevitable cycle of poverty experienced by the incredibly industrious village women in Jobra, Bangladesh. After speaking with one such woman, Sufiya Begum, a stool-maker in Jobra, he discovered that she was unable to purchase the bamboo necessary to make her stools for a lack of twenty-two cents. Sufiya acquired the capital needed through a trader (or “middleman”) that would later pay about twenty-four cents for a finished stool, lending Sufiya a daily profit of only two cents. The small amount of profit was just enough to provide food and shelter for her family, and served as a better alternative to facing the usurious rates charged by local moneylenders. Yunus (2007) recognized that “the existing economic system made it absolutely certain that Sufiya’s income would be kept perpetually at such a low level that she would never save a penny and would never invest in

expanding her economic base” (p. 48). After a week of collecting information on other villagers in Jobra, Yunus’s assistant discovered forty-two borrowers reliant on the traders for a total of only twenty-seven dollars.

From such a small amount of money was born a big idea. Yunus (2007) realized that the biggest barrier to escaping poverty for these hard-working entrepreneurs was an inability to borrow at a reasonable interest rate. That incapacity stemmed from their lack of assets to use as collateral in order to secure a loan at a commercial bank. The problem represented a case of the chicken or the egg; which would come first to produce the other? Yunus’ solution hatched from creatively reimagining the “rules” by which the poorest of the poor could borrow and establish credit. Micro-loans were awarded to the “poorest” in this manner first in Bangladesh and increasingly in other parts of the world following the newly established Grameen model. The term “poorest” was defined in 1995 by the Consultative Group to Assist the Poorest and the Microcredit Summit Campaign Committee as the bottom fifty percent of those below the poverty level and distinguished from the “poor” who were normally defined as all individuals below the poverty level (Yunus, 2007, p. 41).

The original model consisted of making very small loans to those able to form a peer group of five individuals in similar situations. The peer group was used as a means of screening and monitoring members since each person was held accountable for defaults from any other group member. Such an arrangement reduced the moral hazard that might arise from lending to one’s

peers by decreasing the group's willingness to approve loans for which they would likely be held accountable for repaying. Another problem inherent to lending is adverse selection which is typically addressed by banks with higher interest rates, though this prevents lower income individuals from gaining access to such loans. The peer group framework helped guard against adverse selection through the reliance on greater personal knowledge about each individual borrower and his/her preferred behaviors and propensity for risk-taking. The concept of peer group lending programs (PGLPs) was central to the new mechanism referred to as microlending. Yunus (2007) reasoned that using peer pressure in conjunction with the fact that the practically asset-less borrowers had no better alternative for improving their qualities of life would be enough to encourage repayment. He was right.

The reported repayment rate as of August 2012 for the Grameen bank stood at 96.88% (Grameen Bank, 2012). This and other reported microloan repayment rates averaging between 95% and 98% are remarkable compared to the average repayment rates for other types of credit offered in the U.S., such as consumer credit, consumer loans, and mortgage/housing loans (Grameen Foundation, 2012; Euromonitor International, 2011). As one can see in Figure 1, the rates for microlending and other types of credit used to be comparable, but the latter have fallen greatly due to the recession. It is important to note that the average microlending repayment rates are based on those reported to Mixmarket.org, an online microfinance database which contains no data from

U.S. MFIs. Consumer credit has traditionally suffered the lowest repayment rates compared to other loans in the U.S., likely due in part to the high interest rates charged on consumer credit cards. Repayment rates for small business loans in the nation are not reported annually, though a 2009 CNNMoney.com report pinned them at 91.6% and 88.1% in 2007 and 2008, respectively. Again, these rates were reported during the recession, yet still fell much below average microloan rates. Additionally, Bloomberg.com (2010) reported that small business loan defaults range from 4% to 14% for the nation's largest lenders.

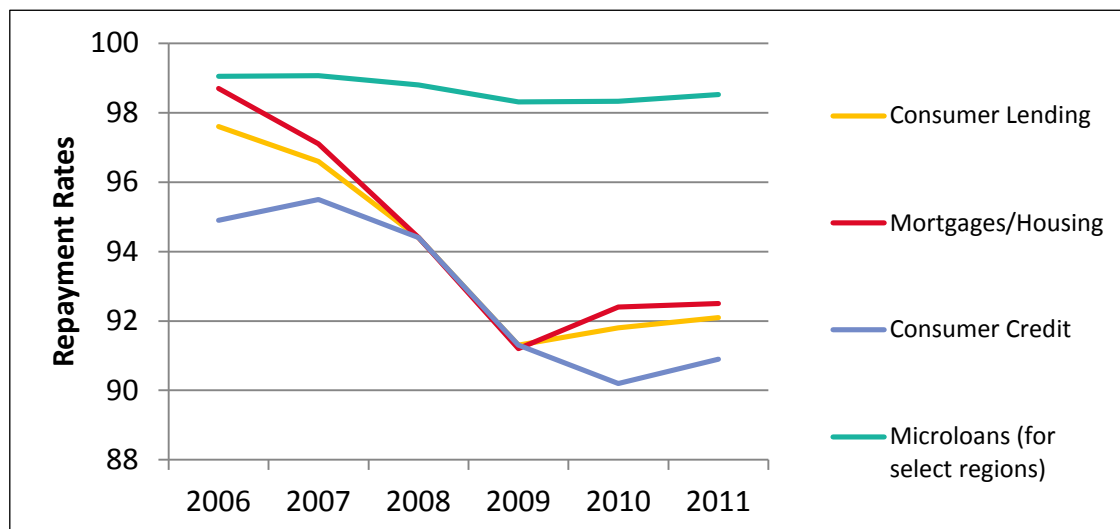


Figure 1: Average Loan Repayment Rates
Source: Euromonitor International (2011) and Mixmarket.org (2012)

United States Applications

After seeing the international success of microlending strategies, it was only a matter of time before the United States adopted this practice as a tool to enhance entrepreneurship and reduce poverty. Around the same time Muhammad Yunus was developing the concept of microlending in Bangladesh,

several groups in the United States were already creating institutions with similar goals. ShoreBank Corporation was founded in 1973 in Chicago to serve the underbanked (those typically excluded from mainstream banking for various reasons discussed in greater detail below) in the city's South Shore area. The organization served to advance inclusionary financing with multiple branches in several states for 37 years before closing in August 2010 after facing a shortage of capital during the "great recession" (Post & Wilson, 2011). Although the ShoreBank Corporation differed greatly from the Grameen Bank, it signified an understanding that financial exclusion was a real problem within the United States. As awareness about the field grew, so too did the number of microfinance institutions in the United States. According to the Opportunity Fund's "Microlending in the United States: A Timeline History, 1973-2010", 1981 marked a milestone for garnering national attention with segments on *Oprah* and *60 Minutes* about a microloan program for women based out of St. Paul Minnesota. By the late 1980s, awareness and support of microfinance was firmly established in the U.S. (Opportunity Fund, 2010).

The Aspen Institute's Microenterprise Fund for Innovation, Effectiveness, Learning and Dissemination, referred to in this document as FIELD (2010, 2012), estimates that the number of microenterprise development programs in the U.S. has continued its upward trend, growing from 84 in 1992 to 854 today. With increased numbers has come enormous variety in microfinance models, and today many U.S. microfinance organizations are quite different from the

Grameen Bank. The two primary differences have been the relative *lack* of peer group lending strategies and the *inclusion* of business development services or other training programs offered by United States enterprises. Since the introduction of the Good Faith Fund in Arkansas (one of the first Grameen-style MFIs in the U.S.), attempts to use PGLPs in the U.S. context have been met with mixed reviews (Sengupta and Aubuchon, 2008, p. 16).

Research on microfinance practice in the U.S. shows this lack of PGLPs to be widespread. For instance, Hung (2003) noted that the Aspen Institute reported 53 PGLPs in their *1996 Directory of Microenterprise Programs*. Since then, that number has declined according to FIELD's U.S. Microfinance Census, conducted in 2008 and 2010. In 2008, 15 out of 141 microenterprise development programs (reporting their lending methodologies) offered peer or group-based loans in addition to individual loans. In 2010 the number of programs reporting peer group lending stayed at 15, while the total number of programs increased 67% to 235 as seen in Figure 2. Additionally, 1 program (.7%) reported sole reliance on peer loans in 2008 compared to 6 such programs (2.5%) in 2010. FIELD also reports that the number of programs providing business development services has increased from 72% (266 out of 369 reporting) in 2008 to 97% (356 out of 366) in 2010. These statistics support the notion that "the earliest U.S. programs started with loans, but now focus on training" (Schreiner and Woller, 2003, p. 1574).

This shift from lending to business development services leads one to question how microfinance can exist when loans are limited. Edgcomb, Klein, and Clark (1996) report that a majority of microenterprise development organizations offer solely technical assistance to a large amount of their clients. This perhaps explains their reference to microenterprise development organizations as opposed to microfinance institutions (MFIs). The similarity in terms is indicative of the blurred distinction in the U.S. between microfinance and more general support for microenterprise and small business. This research is concerned with the former, whether or not it provides the additional services that the latter do.

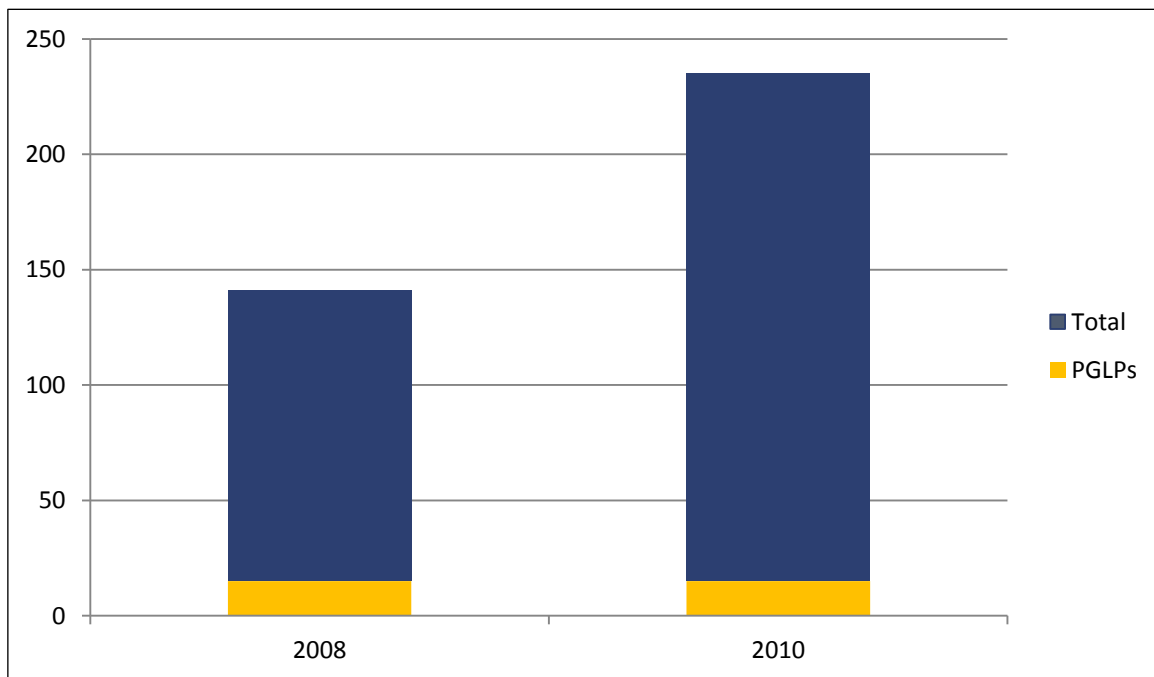


Figure 2: U.S. PGLPs Compared to Total U.S. Microenterprise Development Programs
Source: U.S. Microfinance Census (2008, 2010)

Obstacles to U.S. Implementation

Microfinance programs in the United States operate in a much different context than those in Bangladesh, India, or Latin America. Similar to most other economic development strategies, microfinance models must be adapted to fit the inherent political, social, and economic environments in which they are immersed. Unfortunately, many microfinance programs have been implemented in the U.S. without first acknowledging that such changes needed to be made. As cited by Morduch (2000), Hulme and Mosley (1996, p. 135) state:

Ironically, it is the success of the “first wave” finance-for-the-poor schemes, and particularly the Grameen Bank, that is the greatest obstacle to future experimentation. Most designers and sponsors of new initiatives have abandoned innovation, and “replication” is leading to a growing uniformity in financial interventions. (p. 627).

It appears as though American microfinance programs have been the result of selective replication rather than innovation. Through this process, the primary component of microfinance (the use of PGLPs) has been removed, and U.S. MFIs have reverted to simply small business development. As such, over the past 30+ years the challenges listed in Table 1 have been identified as barriers to effective implementation in the U.S.

Challenge (as compared to lesser developed countries)	Cited by:
It is much easier to access alternative forms of credit in the U.S.	Schreiner and Morduch, 2001, Hung, 2001
The relative size of the market for microenterprises in the U.S. is small.	Schreiner and Woller, 2003, Schreiner and Morduch, 2001, Edgcomb, Klein, and Clark, 1996
Competition from large scale producers and distributors is greater in the U.S.	Sengupta and Aubuchon, 2008, Schreiner and Woller, 2003, Schreiner and Morduch, 2001
There are many more enforced regulations in the United States.	Buckland and Hay, 2012, Yunus, 2003, Schreiner and Woller, 2003, Schreiner and Morduch, 2001, Bhatt and Tang, 1998
It is just as difficult, if not more so, to obtain financial self-sufficiency for U.S. MFIs.	Buckland and Hay, 2012, Quayes, 2012, Counts, 2008, Sengupta and Aubuchon, 2008, Servon, 2006, Buckley, 2001, Bhatt, Tang, and Painter, 2001, Schreiner and Morduch, 2001, Bhatt and Tang, 1998

Table 1: Challenges to U.S. Microfinance and Supporting Authors

These challenges are reviewed in turn below. They are divided into two groups of thought. The first three challenges listed in Table 1 fall into the “we don’t need microfinance in the U.S.” category while the final two obstacles fit the “it won’t work here” mentality. After challenges in the first group are each explained and disputed, the second group is addressed with attention drawn to the inapplicability of these arguments due to their exclusion of PGLPs in their definition of microfinance, leading to critiques of programs that are something else entirely. Finally, the literature addressing the **inability to implement peer group lending programs** in the U.S. is reviewed (Buckland and Hay, 2012; Servon, 2006; Hung, 2003; Schreiner and Woller, 2003; Schreiner and Morduch, 2001; Bhatt and Tang, 1998, 2001; Besley and Coate, 1995).

“We Don’t Need It” Arguments

Access to Credit:

Schreiner and Morduch (2001) argue that the availability of credit to Americans not only limits the need for microfinance, but that it also makes the task of assessing microloan risks that much more difficult. In developing countries, there are moneylenders that charge high interest rates (as mentioned in the first section of this paper) similar to the predatory lending “cash on demand” organizations in the U.S. However, Americans also have access to “fringe banks” (Caskey, 1994) such as pawnshops and check-cashing outlets, and most importantly, to credit cards. Schreiner and Morduch (2001) argue that the availability of these services reduces the need for microfinance, but other evidence suggests that this may not be the case.

While the poor in the U.S. certainly have easier access to credit than in other countries (Schreiner and Morduch, 2001), it is not clear that this access is universal or that it does not impose usurious rates. In fact, the National Consumer Law Center, a nonprofit advocacy organization focused on “advancing fairness in the marketplace for all”, reports that payday loan rates can exceed 1,000% (NCLC, 2012). Microfinance was introduced in Bangladesh to provide financial access to those who otherwise had to resort to moneylenders and middlemen. Similarly, the strategy can and should be used domestically to aid the “underbanked”, or those whose financial needs are not fully met by traditional commercial institutions. These citizens consist of those with poor credit scores, a

lack of understanding about the mainstream banking system, limited or unstable incomes, those recently released from prison, and immigrants (Beard, 2010; Ledgerwood, 1999). Though the question of whether they would take advantage of microlending is an open one, there is no doubt that such groups exist in the U.S.

One indication of the demand for additional forms of credit in the U.S. is the fact that an entire industry has been created to offer services to the “underbanked” population. Buckland and Hay (2012) report that “in the United States, the payday lending industry was estimated to have revenues of around \$40 billion in 2010” (p. 68). A recent study from the Center for Financial Services Innovation (CFSI) (2012) reports the “underbanked” market generated \$78 billion in fees and interest payments in 2011, with an expected growth in the market of 9% to achieve a total of \$85 billion in 2012. The number of “underbanked” clientele also appears to be growing. The population was estimated by the FDIC to be about 43 million U.S. adults as of 2010 (Beard, 2010). Although reporting methodologies may slightly differ, CFSI (2012) reports that number has since grown to 68 million in 2011. These figures all support the idea of a large untapped demand for alternative means of credit at reasonable interest rates.

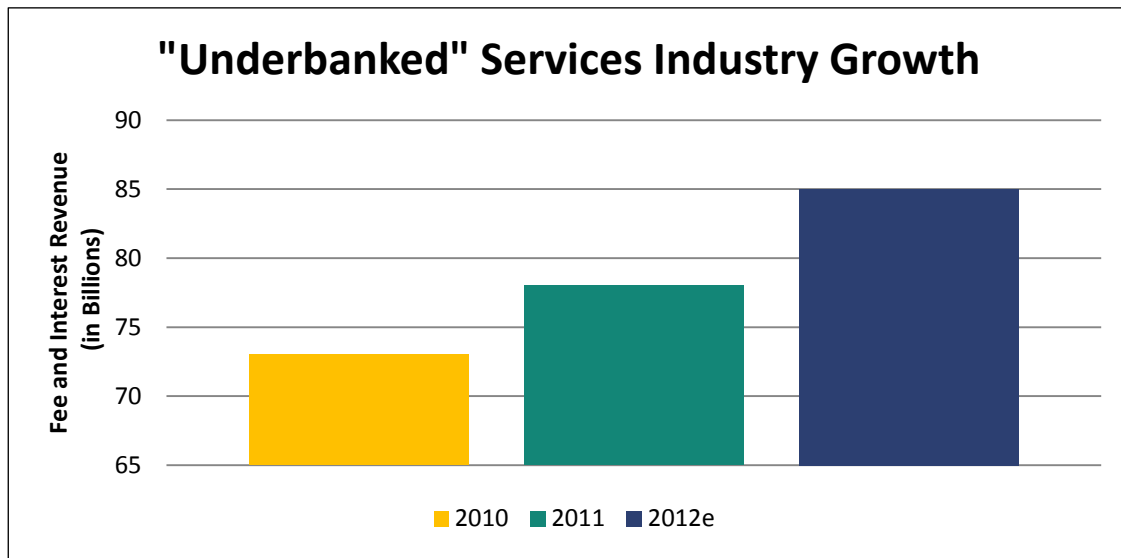


Figure 3: "Underbanked" Service Industry Growth (2010-2012)
Source: Center for Financial Services Innovation

While fringe banks and payday lending are substantial, the most significant distinction between lesser developed nations and the U.S. regarding credit is Americans' access to credit cards. However, with credit cards come credit scores. Whether a poor credit score is accrued through the misuse of these easily attainable cards or reliance on the previously mentioned predatory services is irrelevant. The fact is that microfinance is intended to help those who are financially excluded to build their credit, and unfortunately, in America, this usually means assessing the risk of lending to those with *poor* credit as opposed to those with *no* credit as in developing countries (Schreiner and Morduch, 2001). Without reliance on peer group lending programs, MFIs may struggle with assessing an individual's risk based on their character as opposed to their readily available credit history. Altering microfinance to meet the needs of those with poor credit in addition to those with no credit would likely widen the target

audience for microfinance in the United States, which according to the literature, is still relatively small.

Size of the U.S. Market

Much of the literature refers to the size of the American market for microfinance in terms of the self-employment rate in the U.S. An often cited comparison is that from Edgcomb, Klein, and Clark (1996) that estimates the American self-employment rate to be 8-20%, or at the most, one third of the 60-80% estimate for those in developing countries (p. 6). Another estimate offered by McKernan and Chen (2005) is that 11% percent of U.S. households own a small business, classified as having fewer than 500 employees (p. 2). One should note that these rates are based on existing self-employed populations rather than the *potential* markets that may exist for entrepreneurial activity. Similar to what was encountered in Bangladesh, one can see a case of the “chicken or the egg” in which low interest rate loans must be made available for the demand for entrepreneurial investments to be met, yet the need for such loans is not fully recognized until there is enough identified demand to deem it feasible. Additionally, the market for small business finance is relatively large when one considers that small businesses account for over 99% of the 5.7 million U.S. firms (U.S. SBA, 2010). Microenterprises alone account for 60% (McKernan and Chen, 2005) where microenterprises are those businesses consisting of five or fewer employees (Servon, 2006).

Schreiner and Morduch (2001) and Schreiner and Woller (2003) add to this debate by highlighting the notion that the average percentage of expenditures per person on microenterprise products or services is much smaller in the United States compared to the average in developing countries. However, there are certainly U.S. enterprises that lend themselves more readily to this type of consumerism, and their financial needs are important. Additionally, there have been recent pushes by communities to “buy local” in an attempt to enhance their economic multipliers and become more self-reliant (Shuman, 1998). Shuman identifies the need to focus on microeconomic perspectives to foster this self-reliance and includes ten mechanisms that have already been implemented at some level in communities across the nation to help achieve such goals. Even with the emergence of state and local initiatives aimed at microenterprise and small business development, the following has been identified as the next challenge facing microentrepreneurs in the United States: competition from large scale producers and retailers.

Large Scale Competition

The street vendor market of developing nations differs greatly from the highly corporate society built around economies of scale in the United States. American microentrepreneurs face much more competition in the product market from large scale producers, distributors, and retailers. Schreiner and Morduch (2001) and Sengupta and Aubuchon (2008) use this to argue that there is more opportunity for microenterprise in the service sector in the United States,

especially within niche markets. While this may be the case, the U.S. service sector is often similarly corporatized. In fact, Schreiner and Morduch (2001) point out how large U.S. companies contribute to the plethora of low-skill, low-wage jobs offered domestically that are not typically available in developing nations. Although they do not specifically cite examples, these would include server or clerk positions with franchised restaurants, coffee shops, pharmacies, grocery stores, gas stations, and other retail establishments. The abundance of such positions detracts from the entrepreneurial incentives associated with the sectors that would otherwise attract small ventures (Schreiner and Morduch, 2001; Schreiner and Woller, 2003; Sengupta and Aubuchon, 2008).

A primary example of how a microenterprise may face challenges due to its small size is introduced by Schreiner and Morduch (2001) and Schreiner and Woller (2003). They claim a prospective entrepreneur is unlikely to obtain and operate a profitable small agricultural venture in the U.S., whereas the farming industry is one of the largest microenterprise sectors abroad. This is partly attributable to limited competition from small farmers producing a commodity for their own village's consumption in lesser developing countries as differentiated from the landscape of large scale agricultural producers and distributors serving much broader markets in the United States. In addition to the evidence presented by these authors, it is important to note that U.S. federal policy favors large scale agribusiness with farming subsidies. Since 1995, 74% of subsidy payments have

been distributed to the top 10 percent of subsidized farms, with almost two-thirds of the nation's farmers receiving no subsidies at all (Sciammacco, 2011).

Not only do financial subsidies more heavily benefit large scale farmers, so too do other regulations regarding farm practices. In a paper commissioned by the Agribusiness Accountability Initiative, Mattera (2004) provides several compelling case studies detailing how U.S. farm policies have benefited agribusiness either through their explicit regulations or the way in which they are implemented. One example explained how the USDA addressed the major manure problems generated by concentrated animal feeding operations (CAFOs) by allowing conservation dollars from the Environmental Quality Incentives Program (EQIP) to subsidize attempts by CAFOs to manage such issues (Mattera, 2004). CAFOs are "livestock facilities that house and feed 1,000 or more animal units in a confined area" (Mattera, 2004). Rather than addressing the inherent bias towards large scale farms, this type of regulation simply applies a band-aid to the issue while encouraging CAFOs. This illustrates a piece of the next major deterrent from entrepreneurial activity in the United States: regulations.

"It Won't Work" Arguments

Regulations

Almost every sector of the U.S. economy is subject to regulation of some kind by federal, state, or local government. Many of these regulations limit

American microentrepreneurial activity, often unintentionally (Schreiner and Morduch, 2001; Schreiner and Woller 2003). From the perspective of lenders, interest rate caps on banks and stipulations that only regulated depository institutions may retain deposits limit microfinance lenders' abilities to become profitable, a goal which has garnered much attention in the literature and which will be discussed further in a later section (Bhatt and Tang, 1998; Shreiner and Morduch, 2001). Though microfinance strategies are inherently aimed at offering *relatively* low interest rates, many argue that to sustainably continue their goals of poverty alleviation, MFIs must earn enough on their loans to re-invest in their operations. The issue of institutional financial self-sufficiency and the ability to meet market demands is not unique to the U.S. It still remains a challenge in the lesser developed countries who were first to implement microfinance. Krahen and Schmidt (1994) and Adams, Graham, and Von Pischke (1984) argue that experiments with interest rate caps have been more detrimental than beneficial in lesser developed nations (Schreiner and Morduch, 2001).

From the borrowers' perspective, incentives are limited by the need to obtain building and operating permits and understand tax laws and zoning regulations. For many service-oriented ventures, business licenses are also required (i.e. child care, food service, and cosmetology), and child-labor laws prevent children from working for their parents. These regulations are daunting, but perhaps the biggest regulatory hurdle to microenterprise is the welfare system (Schreiner and Morduch, 2001). Yunus (2003) claims that the welfare

system in the U.S. poses a great challenge to microlending (p. 189). His statement represents a focus on the safety net that welfare provides the U.S. poor. Similar to the abundance of access to credit and low-skill jobs in the U.S., welfare programs discourage self-employment ventures. Welfare does this not only by providing basic necessities, but also by enforcing means or asset tests that ultimately penalize one for increasing his/her earnings and/or savings. Therefore, one may fear losing benefits necessary to sustain oneself while trying to accumulate the necessary pre-venture savings that are typically necessary to start a business. As Schreiner and Woller (2003) summarize, “The problem is less that limits on income and assets reduce public assistance and more that the limits kick in before a small firm can support its owner” (p. 1570).

Additionally, it has been challenging to prove that microenterprise activities meet the Temporary Assistance for Needy Family (TANF) requirements imposed through the Clinton administration’s Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) (Schreiner and Morduch, 2001). Such requirements include obtaining a job within a maximum of five years, allotting a certain amount of time to job searching, and maintaining a certain minimum level of assets (Personal responsibility, 1996). If one is prevented from saving money to use as seed capital and is forced to search for a job when they are truly interested in starting their own business, the battle will likely be a long, hard fought one, perhaps lasting longer than five years. However, the Obama administration has recently released a waiver for certain TANF regulations in

targeted areas. A July 2012 memo highlighted federal interest in increasing TANF waiver flexibility for innovative methods encouraging employment (U.S. Dept. of Health and Human Services). Time will tell whether or not these innovative methods include microfinance strategies.

Institutional Difficulty in Becoming Self-Sufficient

There is a dispute in the literature as to whether or not financial self-sufficiency at the organizational level should be a goal of U.S. microfinance programs or if such a goal would be in direct conflict with the social mission of their practices. While this is not the primary focus of this paper, it is certainly a debate to be acknowledged as American MFIs have struggled with these competing ideas. This paper argues that true institutional self-sufficiency occurs when MFI's successfully rely on PGLPs to reduce costs. Challenges to PGLP implementation in the U.S. will be discussed further in the next section. The aforementioned challenges of interest rate caps, limits on depository abilities for non-bank MFIs, competition from other credit sources, and a relatively smaller target market in the U.S. contribute to higher transactions costs for many U.S. lenders when compared to microfinance practices in developing countries. However, such arguments cannot be made for U.S. microfinance institutions if these MFIs are not utilizing PGLPs which serve as the major source for overcoming microlending transaction costs challenges. These incomplete arguments as addressed in the literature are reviewed here for the sake of comprehensiveness.

In the U.S., upper limits on interest rates vary by state from an 8% cap in Alabama to 24% in Washington, D.C. (LoanBack, 2011). Some states provide different benchmarks for various sized loans, and many provide exceptions for mortgage loans. For instance, North Carolina does not designate an interest rate limit for loans greater than \$25,000, but loans with a principal amount smaller than that threshold are entitled to a cap. That cap is determined as the maximum between 16% or 6% greater than the latest published U.S. Treasury Bills rate (State of NC, 1979). North Carolina does not place an interest rate limit on mortgage loans, unless that loan is made for less than \$10,000 *and* is not provided by an approved list of lenders (State of NC, 1979). South Carolina does not place a limit on loans in which a written contract is utilized, though the state distinguishes agricultural loans for less than \$25,000 as a separate category, entitled to a 16% cap (State of SC, 1984). Understanding how one's particular state's usury law is constructed is the first step to determining what interest rates can be charged for various sized loans and how those limits will affect the ways in which the lending institution is structured (i.e. reliance on PGLPs, ability to raise funds, number and salaries of hired staff, etc.).

Additionally, the Community Reinvestment Act of 1977 (CRA) requires regulated financial institutions to meet the needs of the communities within which they are situated, including low-income residents. The CRA calls for lending and depository services, but many MFIs are non-bank institutions such as NGOs that are not regulated as banks, and thus restricted from receiving deposits

(Schreiner and Woller, 2003), even though their mission may be to serve the needs of low-income residents. Thus, banks sometimes meet the requirements of the CRA by allowing local microfinance institutions to make loans on their behalf without evaluating the risks associated with those projects. This leads to a structure in which some MFIs are unable to accumulate savings deposits, reducing their services offered and their ability to sustain themselves through lean funding periods. At the same time this detracts from typical financial institutions' incentives to develop innovative lending mechanisms for the CRA target audiences (Schreiner and Woller, 2003).

For these reasons, it has been well documented that achieving financial self-sufficiency has been a greater challenge for American MFIs than those in developing nations (Bhatt and Tang, 1998; Schreiner and Morduch, 2001; Sengupta and Aubuchon, 2008). They argue that to become sustainable entities, interest rates would need to be raised and the target market would have to expand, possibly defeating the intended purpose of microfinance. Quayes (2012) evaluates the perceived trade-off between the two goals of self-sustainability and poverty alleviation in his article "Depth of Outreach and Financial Sustainability of Microfinance Institutions". He finds from the reporting MFIs that the financially sustainable organizations actually have greater poverty alleviation effects or "depth of outreach". Thus, this trade-off may be an illusion caused by a failure to implement microfinance as designed.

Servon (2006) and Counts (2008) also argue that strategies should be sought to encourage *both* financial sustainability and poverty alleviation, claiming that they are not mutually exclusive goals. Additional arguments suggest there needs to be a focus on innovation and efficiency regardless of whether or not financial sustainability is achieved (Bhatt, Tang, and Painter, 2001; Buckley, 2001; Morduch and Schreiner, 2001). Finally, when compared to other job creation, poverty alleviation, or economic development strategies, the cost-effectiveness of microfinance programs are seen as reasonable (Sengupta and Aubuchon, 2008; Edgcomb, Klein, and Clark, 1996; Servon and Doshna, 2000). Again, the financial self-sufficiency arguments fail to acknowledge the necessity of PGLPs as a critical component of true microfinance programs.

Inability to Implement Peer Group Lending Programs (PGLPs)

The aforementioned variations between U.S. and lesser developed nations' microfinance strategies focus on fundamental differences between the political and economic frameworks within which each operates. These differences ultimately contribute to the difficulty faced in the United States to utilize the most important facet of the successful microfinance models used in Bangladesh and many other developing countries, peer group lending programs (PGLPs). Morduch and Schreiner (2001) argue that reliance on arbitrarily created (rather than self-selected) groups, uneven enforcement of joint liability, higher transportation and opportunity costs associated with attending meetings, the

transient and individualistic nature of Americans, and a general lack of social capital preclude group lending strategies from being as effective in the United States as they have been abroad. For instance, in Bangladesh, the opportunity for women to interact with community members outside their family on a weekly basis is considered a privilege due to the religious practice of purdah that restricts women from leaving their homes (Yunus, 2003), whereas that same opportunity for interaction in the U.S. may be viewed as a burden on one's time and resources (i.e. fuel, bus fare, time in other social or work-related activities, etc.).

Schreiner and Woller (2003) add further to the argument that the diverse nature of U.S. poor populations (which arguably detracts from social capital) prevents widespread successful use of American microfinance PGLPs. Of the various reasons given for the success of PGLPs elsewhere, and the relative lack of such success in using them in the United States, the most common appears to be a difference in the amount of social capital amongst the differing societies. In their discussions of PGLPs, Bhatt and Tang (1998, 2001), Buckland and Hay (2012), Servon (2006), Hung (2003, 2006), and Besley and Coate (1995) each highlight this difference as it relates to societies at large and more specifically, their poor populations.

Bhatt and Tang (1998) argue that there are three primary forms of PGLPs, two of which enforce joint liability, and each with varying degrees to which transaction costs are applied to the lenders and the borrowers (displayed in

Table 2 below). In the U.S., social capital tends to be lower than in environments with less formally educated populations and weaker legal enforcement (Guiso, et al., 2004). Additionally, Costa and Khan (2003) and Putnam (1993b) demonstrate that social capital reserves in America have been decreasing over the past quarter to half-decade due to increases in ability to travel, ethnic heterogeneity, and women's participation in the workforce. Therefore, the transaction costs associated with initially building the social capital amongst groups of peer borrowers are often high for the lenders and borrowers involved with U.S. MFIs utilizing PGLPs (Bhatt and Tang, 1998). Bhatt and Tang (2001) later argued that many peer group lending programs in the U.S. did not acknowledge the difference in levels of existing social capital among poor in the U.S. and poor in lesser developed countries. Arguably, this lack of focus on variations in cultures has led to ineffective implementation of PGLPs and the ultimate notion that they cannot be used successfully in the U.S.

	Group Lending Arrangement A <i>Group Loan – Joint Liability</i>	Group Lending Arrangement B <i>Individual Loan –Joint Liability</i>	Group Lending Arrangement C <i>Individual Loan- Individual Liability</i>
Lender Burdens	<u>Pre Loan Disbursement</u> Outreach Training <u>Loan Disbursement</u> Application Loan request evaluation <u>Post Loan Disbursement</u> Record keeping Collection	<u>Pre Loan Disbursement</u> Outreach Screening/Recruitment Training <u>Loan Disbursement</u> Application Project appraisal Loan request evaluation <u>Post Loan Disbursement</u> Record keeping Technical assistance Tracking loans Collection	<u>Pre Loan Disbursement</u> Outreach Screening/Recruitment Group formation Training <u>Loan Disbursement</u> Application Project appraisal Loan request evaluation <u>Post Loan Disbursement</u> Record keeping Technical assistance Monitoring Tracking loans Collection
Borrower Burdens	<u>Pre Loan Disbursement</u> Outreach Screening/Recruitment Group formation Training Contract design <u>Loan Disbursement</u> Application Group projects appraisal Group-needs assessment Loan request evaluation Negotiation <u>Post Loan Disbursement</u> Networking Record keeping Monitoring Sanctioning Repayment	<u>Pre Loan Disbursement</u> Screening/Recruitment Group formation Training Contract design <u>Loan Disbursement</u> Application Loan request evaluation <u>Post Loan Disbursement</u> Networking Monitoring Sanctioning Repayment	<u>Pre Loan Disbursement</u> Group formation Training <u>Loan Disbursement</u> Application Loan request evaluation <u>Post Loan Disbursement</u> Networking Repayment

Table 2: “Three Group Lending Arrangements and Distribution of Transaction Cost Burdens”
Source: Bhatt and Tang, 1998

However, the relative levels of individualism, transience, and social capital in the United States may not be as ubiquitous as presented in the literature reviewed thus far. As Long (1988) points out, data supports the notion that Americans are rather mobile, yet what is not often reported are the varying levels of migration amongst different cohorts and the associated reasons for such moves. He finds that there is a higher propensity to migrate among younger, more educated populations and those that have moved before with the overall

amount of migration not increasing over the forty year period from 1940 to 1980. Most notably, Long (1988) highlights eight “main” reasons that account for 70 to 80 percent of American interstate or interregional migrations, five of which pertain to employment or retirement. (p. 251). In support of such findings, he contrasts the surge of migration after WWII with an expanding economy and many skilled laborers to that of the decline in interstate moves associated with “well-educated baby boomers holding on to jobs in a slow economy” in the 1970s. Some occupations continue to lend themselves more readily to relocation than others. Macroeconomic forces should be accounted for as well, as the most recent recession has illustrated.

Additionally, Ellickson (1991) highlights the ability of “close-knit” groups in the U.S. to self-regulate in order to achieve welfare-maximizing norms for all involved parties. His research focuses primarily on the ways in which cattle-farmers in Shasta County, California handle disputes. He then combines his observations from Shasta County, with knowledge of the “larger social-control system” to determine that welfare-maximizing norms exist amongst groups that share informal power and easily communicate information relating to such control. Ellickson notes that individuals could belong to several close-knit groups of various types, such as religious, residential, and work-related. The goal with PGLP implementation should be to target these existing groups that are also in need of capital investment. There are clearly such groups within the United States, one of which is described later in this chapter.

Insights into the Success (or lack thereof) of PGLPs

It is important to examine the “social capital” concept that appears to play such a significant role in the successful development of peer group lending programs. As highlighted by Robert Putnam (1993a), three forms of social capital are of critical importance: trust, social norms, and networks, with the first often arising mutually through the enforcement of the latter two. Putnam (1993a) considers literature from several influential economists and sociologists to conclude that “Norms such as those that undergird social trust evolve because they lower transaction costs and facilitate cooperation” (p. 172). As expressed in the previous section, the ability to lower transaction costs is crucial to the success of PGLPs.

Social capital lowers transaction costs in PGLPs by serving as collateral, just as other forms of capital often serve this purpose in commercial financial transactions. A major difference between social capital and other forms of capital (i.e. built, natural, and financial), however, is that social capital is considered a “moral resource” according to Albert Hirschman (Putnam, 1993a, p. 169). This concept implies that the supply of social capital actually *increases* with consumption and *disappears* with the lack of it. Several ways in which social norms can be used and therefore enhanced are enumerated by Flora and Flora (2008). These include, the creation of groups, the subsequent interaction within (bonding) and between (bridging) groups, visioning, and participating in

collaborative pursuits (p. 117). Successful peer lending groups represent several of these activities.

An additional concept that separates social capital from other traditional forms of capital is that it is often provided as a public good. “Like all public goods, social capital tends to be undervalued and undersupplied by private agents...This means that social capital, unlike other forms of capital, must often be produced as a by-product of other social activities” (Putnam, 1993a, p. 170). For example, social capital may not initially exist amongst a group of individuals, but through regular exchanges, they are likely to become familiar with each other’s dispositions, abilities, and interests and to evaluate each other’s trustworthiness. Hence, mutual trust (as a form of social capital) is established through multiple interactions. A common fear associated with the provision of public goods is that “free riders” and “shirkers” will benefit from the availability of a good while limiting their contributions toward its provision. Putnam (1993) highlights the ability of informal savings and loan platforms known as rotating credit associations (RoCAs) to overcome these fears through reliance upon norms and networks of reciprocity. Yunus (2007) alludes to the fact that PGLPs are institutions similarly able to take advantage of such existing norms and networks when he claims they are “enterprises driven by an attitude of ‘social consciousness’” (p. 202).

Local Food Systems

Defined

Over the past couple decades there has been a growing awareness of and interest in local food systems. This has been demonstrated by the introduction of new terms and concepts such as the “slow food movement”, “localism”, and even the New Oxford American Dictionary’s 2007 word of the year: “locavore” (a person who eats primarily food grown within a certain radius deemed local), as well as related initiatives instituted at the federal, state, and local levels (Martinez, et al., 2010). Examples include the “Know Your Farmer, Know Your Food” program implemented at the national level and branding strategies such as the “Certified South Carolina” campaign targeted at product promotion within the state. Across the nation there have also been (rather successful) local and statewide efforts to encourage growth in the number of available farmer’s markets. Tropp (2010) reports USDA findings that the number of farmer’s markets in the United States increased 200% from only 1,775 markets in 1994 to 5,274 in 2009 (p.11). Similarly, community supported agriculture (CSA) ventures have exploded from only 2 in the mid 1980’s to an estimated 3,400 as of 2010 (Tropp, 2010, p. 12). However, farmer’s markets and CSAs are only two pieces of typically larger, more complex food systems.

Although there is no agreed upon definition for local food systems, Martinez, et al. (2010) have summarized their general characteristics in their Economic Research report *Local Food Systems: Concepts, Impacts, and Issues*.

The report concludes that local food systems are classified based on geography as well as “social and supply chain characteristics” (p. 3). What constitutes a local geographical region for food systems is dependent upon population density and the subjective assessments of individuals. The distinguishable supply chain facets consist of direct-to-consumer marketing and direct-to- retail/foodservice marketing. Direct-to-consumer marketing includes farmer’s markets, community supported agriculture (CSA), farm stands, community gardens, and pick your own (PYO) ventures, and direct-to-retail/foodservice marketing involves sales to restaurants, schools, retail stores, and hospitals (Martinez, et al., 2010).

Farm incubators offer yet another mechanism around which farmers are organizing. With the average age of American farmers approaching 60 years old (NASS, 2007a), many are recognizing the need to encourage young aspiring farmers to move into the field (Langston, 2011). Farm incubators are seen as one method of reaching out to a younger population of new farmers. Reducing the costs that would normally be placed upon one agricultural venture, an incubator provides shared resources from which multiple growers can take advantage. These resources include land, training, networking opportunities, marketing, and sometimes financing. Similar ventures targeting refugees and immigrants have been created to offer a feasible transition to American farming from the subsistence farming one may have been familiar with in their home country (Langston, 2011).

Alignment with PGLP Microfinance Models

As described above, local food systems rely heavily on small farms as their major source of food production. These small-scale farmers are not immune to the challenges described in previous sections such as access to America's plethora of credit sources, regulations, and competition from large scale producers. However, the market of U.S. small farmers is ripe for microfinance lending for multiple reasons.

First, 91 percent of farms were identified as "small" in the 2007 U.S. Census of Agriculture. These 1.9 million small farms represent a market almost 6 times greater than the estimated number of individuals served by microloans in 2010 (FIELD, 2012a). Additionally, they serve an active market whose demand is represented by consumers' higher willingness to pay for local products compared to others (Martinez, et al., 2010). Wimberly, et al. (2002) found that Americans perceive small and family farms as more desirable than large and corporate farms. They similarly demonstrate the willingness to pay notion with a national longitudinal survey in which Americans agreed 2:1 that family farms should be supported even if it led to increased food prices. A local food assessment survey conducted in Greenville, SC found that a majority of attendees at a health and food festival were willing to pay up to a 20% premium for ethically grown, healthy foods (County of Greenville, 2012).

The 2007 U.S. Census of Agriculture further highlights the fact that three out of five primary small farm operators selling directly to consumers were

“socially disadvantaged” women and minorities (Martinez, et al. 2010). The Census confirms the trends of increasing ethnic, racial, and gender diversity among farmers (NASS, 2007a). Interestingly, women and minorities are groups that are often targeted for microfinance loans in the United States (Edgcomb, Klein, and Clark, 1996). The recent creation of farm incubators geared towards certain minority and immigrant residents (i.e. Seattle Tilth and the Somali Bantu Community Association of New Hampshire) highlights the ability of local food systems to incorporate these typically disadvantaged populations into a mainstream industry.

The fact that Martinez et al. (2010) describe local food systems not only by geographic boundaries but also by social characteristics is telling. Their findings included farmers’ reliance on one another to help fill gaps in demand, especially those in multi-farm CSAs. Rogers, et al. (1988) imply that U.S. farmers have learned to rely on one another out of necessity, noting their increased organization since the national landscape has changed from one of many self-sufficient farmers to one in which a small percentage of the population works in the industry. They argue that farmer organizations such as farm bureaus and the National Farmers Organization (NFO) evolved for educational, economic, and political reasons. The authors also devote attention to the importance of farmer cooperatives, voluntary organizations that require collaboration to benefit from shared costs of certain business functions. According to the National Council for

Farmer Cooperatives, all two million American farmers belong to at least one co-op (2010).

Though maybe not referred to in such terms, farmer organizations have existed for centuries prior to official farm bureaus and co-ops and have continued to evolve with new challenges arising over time. For example, in the western United States, public or community acequias have been used since at least the late 16th century, upon Spaniard settlement (Hutchins, 1928). Acequias are institutions in which farmers demonstrate their ability to share responsibility for the maintenance and allocation of a valuable resource critical to their work in times of bounty and scarcity. In their review of the Culebra Watershed in Colorado, Hicks and Peña (2003) detail the continued reliance on the principles of the acequia institution today. They anecdotally report an instance in which one farmer allowed another to farm some of his land during the 2002 season in which the latter farmer's acequia was not allocated its scheduled annual water distribution. The authors report that even in the face of superseding prior appropriation laws (which do not allow diversion of water from one farmer's land to another), farmers continue to collaborate and support one another as they face the persistent challenge of water scarcity. This challenge has led to the creation of a similar resource management institution known as mutual water companies, many of which originated in the mid-1800s and continue to operate today (Russell, 1939). These mutual water companies allow agricultural users to self-govern the allocation of their shared water supply and are oftentimes able to

avoid public utilities regulations (Strickland, 2011). To use Ellickson's term, farmers collaborating in such a way are creating "order without law" or at least a different order than would result with sole reliance on the formal legal system.

Martinez et al. (2010) additionally provided the following insight regarding the importance of social features in successful local food systems:

The concept of local food may also extend to those who produced the food: the personality and ethics of the grower; the attractiveness of the farm and surrounding landscape; and other factors that make up the 'story behind the food'. (p. 4).

Although Sage (2003) focused on southwest Ireland, he also highlighted the significance of mutual trust in the success of what he termed good food networks (similar to local food systems as they have been referenced in this paper). In their discussion of local food system benefits, Hughes, et al. (2007) refer to Goldschmidt's 1946 conclusion that there exist a strong connection between small-scale production and community well-being, with not only economic benefits, but more importantly, social benefits accruing to community members. These theories and their possible applications to our nation's current local food systems underscore the potential of small farmers involved in such systems to take advantage of the cost-mitigating and capital building tool of PGLPs. This concept presents an interesting area of study for further analysis in this paper.

CHAPTER THREE

METHODOLOGY

Developing the Survey Instrument

This study aimed to empirically test the hypothesis that small farmers participating in farm incubators provide a suitable target audience capable of capitalizing on peer group lending programs. To test this major hypothesis, an online survey was developed. Initially, informal conversations with local farmers (who are not included in the sampling frame) in upstate South Carolina and thesis committee members proficient in survey design were conducted to help establish the essential framework and language for an online survey. Next, the survey was developed and pre-tested using cognitive interviews (as recommended by Dillman, 2009) with additional farmers from outside the sample population, as well as farm incubator staff, to identify and address areas of redundancy, confusion, and concern. The cognitive interviews were conducted over the phone while respondents took the survey online, to gather feedback regarding wording, as well as navigational issues. The survey was then revised to its final version based on the feedback received from cognitive interviews in accordance with online survey methodology and phrasing recommendations from Dillman (2009) and posted to an online survey site in both English and Spanish versions.

The final survey contained questions addressing the demographics of farm incubator participants and the characteristics of the incubators themselves

in the hopes of shedding light on these relatively new institutions and the individuals that they attract. The questions relating to the participants included those regarding age, race, nationality, whether or not the individual was Hispanic, gender, challenges faced in becoming profitable farmers, and participation status with the incubator (current or past). Questions relating to the incubator included those regarding the duration of participation in the program, the number of participants involved, and the services offered. Additionally, questions were asked to gauge whether or not this population lends itself to a PGLP model of microfinance and to what extent the challenges identified in the literature affect one's willingness to participate in such a program. The development of these questions is detailed below, addressing each in terms of the role it played in answering the three major hypotheses of this study and the expectations underlying those hypotheses.

The underlying expectations of the study were that willingness to participate in PGLPs would be largely positive among farm incubator respondents and that social capital would exist among them. Social capital was expected to manifest itself both within the incubator (representing intra-group "bonding" social capital) and with groups extending beyond the incubator (demonstrating the wider networks associated with local food systems, or "bridging" social capital). After providing definitions of microfinance and peer group lending programs, the general willingness to participate in PGLPs was tested with the following two questions.

1. Thinking of several colleagues whom you trust, would you be willing to form a peer group and participate in a PGLP as defined above, in which you would all be responsible for repayment of each other's loans, thus reducing the interest rates available to you?

If a respondent answered “No” or “Not sure” to this question, he/she was asked the following question based on the understanding from Bhatt and Tang that PGLPs are sometimes implemented without joint liability, though the transaction costs burdens are shifted more heavily toward the financial institution, reducing the amount by which interest rates may be lowered.

2. Would you be more willing to participate in a PGLP if shared liability for each other's loans was not enforced, thus slightly reducing interest rates available to you, but not as much as in the previous scenario of a traditional PGLP?

The responses to these questions were also used as the dependent variable in assessing the effects various other aspects had on one's willingness to participate, items which will be addressed in more detail later in this section.

The notion that social capital existed among farm incubator participants was assessed using the following questions.

1. On average, how many times per month do you rely on other farmers associated with your incubator for assistance, support, or guidance?
2. On average, how many times per month do you rely on other local farmers not associated with your incubator for assistance, support, or guidance?
3. To what extent do you agree or disagree with the following four statements?
 - Most other farmers associated with my incubator face the same challenges I do.
 - I share similar values with most other farmers associated with my incubator.

- Most other farmers associated with my incubator come from a similar background as me.
 - I feel that I can easily relate to most other farmers associated with my incubator.
4. Apart from the incubator, are you involved in any local level organizations, groups, associations, or programs that relate to farming (such as a Community Supported Agriculture (CSA) group, mutual water district, producer association, Farm to School program, etc.)?

Based on the literature, those that are underbanked, or have financial needs not currently being met by the traditional commercial banking system should be the targets of microfinance. To test whether respondents had a general financial need the first four of the following five questions listed were asked with the final question addressing the current likelihood of having one's financial needs met by various institutions.

1. Not including credit card use, have you taken out any loans to secure resources for your farming business in the past year?
2. Considering these loan(s) you received over the past year for your farming business (from banks, credit unions, family members, etc.), in what range would you estimate the total amount falls? Please do not include credit card usage.
3. Have you used a credit card to secure resources for your farming business in the past year?
4. Approximately how much have you charged to your card(s) in the past year? Please only consider charges for acquiring resources for your farming business.
5. Currently, how likely or unlikely are you to use the following resources to obtain capital for your farming business?
 - Credit card
 - Commercial bank loan
 - Credit union loan

- Loan from a friend or relative
- Farm incubator loan
- Savings
- Government loan (Ex. Beginning Farmer and Rancher loans)

Claims that higher transportation and opportunity costs reduce American interest in PGLPs were tested with the following questions.

1. On average, how much time does it take you to travel one way from home to your incubator?
2. On average, how many times a month do you meet with others (farmers, mentors, staff, etc.) from your incubator?
3. Are you required by your incubator to attend meetings/events away from the incubator (such as farmers markets, training classes, etc.)?
4. To what extent do you agree or disagree with the following three statements?
 - I feel that required meetings/events with other farmers are worth my time.
 - I feel that required meetings/events with current or potential customers are worth my time.
 - I feel that required meetings/events with mentors, staff, and trainers are worth my time.

Finally, to control for differentiation between costs of living associated with metropolitan versus non-metropolitan areas and to account for more general regional differentiation, questions were asked regarding the respondent's zip code as well as the zip code of his/her incubator's primary location.

Developing the Survey Frame

Once the survey was developed, the sampling frame had to be established. As previously mentioned, the sampling frame consisted of farm incubator participants. This decision was based on their involvement in local food systems, their interactions with mentors, clients, and other farmers, and their anticipated need for financial capital as beginning farmers. Specifically, adult U.S. citizens or permanent residents who spoke English or Spanish fluently were targeted due to the study's focus on U.S. PGLPs and the American context within which a program might operate. The most comprehensive record of U.S. farm incubators was identified as Tufts University's New Entry National Incubator Farm Training Initiative (NIFTI) database. Starting with this database, two Canadian incubators, several college training programs, organizations currently only recognized as potential incubator sites, and several programs only serving refugees were disqualified for this particular study. Additionally, four incubators (one in SC, one in NC, and two in OR) were added to the list based on recommendations from other incubator staff. In the end, there were 21 U.S. incubators with 265 farmers currently or recently (within the past five years) participating in their programs representing the sampling frame for the survey (Appendix A).

Implementing the Survey

Staff members associated with the farm incubators listed in Appendix A were contacted by phone to explain the purpose of the survey and to ask for willingness to provide contact lists for their current and recent (within the past 5 years) participants. If unable to distribute their members' contact information, a request was made for someone in the organization to serve as a liaison that would disseminate all pertinent survey information to those farmers currently and recently associated with their incubator. Dillman (2009) recommends making five contacts for mail surveys to reduce non-response rates and sampling error. Although the contacts differed from a mail survey in that the contact letters were not sent by third-class postal mail, a combination of phone and email correspondence was used to encourage participation. Dillman (2009) highlights that what is of most importance is not necessarily the total number of contacts, but the differentiation between each successive one. To ensure that such differentiation was accomplished, Dillman's template for successful email reminders was revised to apply to this particular study. Additional calls were also made to ensure the sampling frame count was updated based on the actual number of farmers contacted by incubator staff. The final count of 265 contacted farmers and a useable 84 out of 102 survey responses resulted in a 32% response rate.

CHAPTER FOUR

ANALYSIS

The collected survey data was coded and ultimately analyzed using statistical software (STATA) to determine if PGLPs could be used as a financing tool for small and start-up farmers in farm incubators. The results were first divided into the following categories upon which different analyses were performed: demographics, information regarding the incubators, and dependent, independent, and control variables measuring participants' willingness to participate in PGLPs. The demographic information was totaled and graphed to provide a picture of what the farm incubator population looks like. Similar measures were taken with the incubator information to determine what characterizes these institutions across the U.S. Finally, the dependent variables of willingness to participate in a Peer Group Lending Program with and without shared liability were analyzed separately using Fisher's Exact Test to determine if any relationship was present with twenty-five independent variables in the following categories: social capital, financial capital access, transportation costs, and opportunity costs (a full list can be found in Appendix B). Once basic statistically significant relationships were identified, Simple Logistic Regressions and Linear Probability Models were run on those combinations of variables to determine the effect that each had on the outcome of willingness to participate in a PGLP either with or without joint liability.

The analyses performed serve to test the following expectations. It was predicted that the results of the survey would show that social capital and strong networks exist among farmers participating in farm incubators, though the respondents were likely to possess social capital generated from sources beyond the incubator itself. Additionally, it was expected that the willingness of farmers to participate in a PGLP structure would be largely positive, associated with social capital measures and the need for access to financial capital. Farmers' willingness to participate in PGLPs were anticipated to be negatively associated with increased transportation costs and perceived opportunity costs. While findings from this sample may not allow for statistical inferences to be made regarding the larger small farm population, reasonable deductions can be made that may lead to further research.

CHAPTER FIVE

FINDINGS AND CONCLUSIONS

Respondent and Incubator Characteristics

The survey respondents are demographically similar, with the most noticeable differences being gender and incubator participation status. The study participants are primarily (83%) white, with all but six out of 78 born in the United States, and only one out of 75 respondents is Hispanic. As seen in Figure 4 below, 75% are between the ages of 26 and 45.

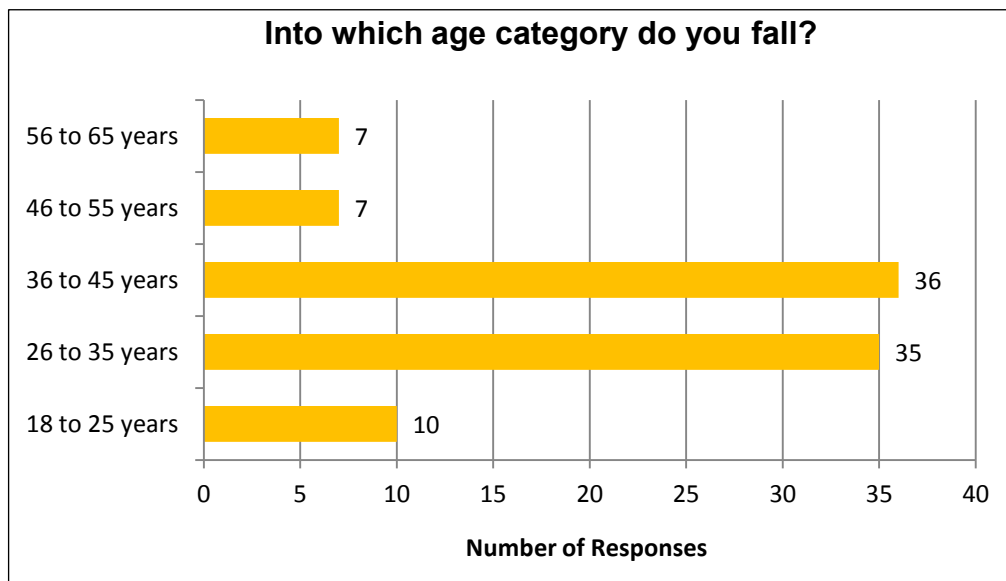


Figure 4: Age of Survey Respondents

The majority of respondents live in metro regions, with 69 out of 75 living in Metropolitan areas, 3 in micropolitan areas, 1 in a small town, and 2 in rural areas according to the Rural-Urban Commuting Area (RUCA 2.0) Codes based on zip-code level data as reported by the Rural Health Research Center. The

major demographic variations are gender and incubator participation status as seen in Figures 5 and 6. Based on the proclivity of typical microfinance programs to lend to women, the relationship between gender and willingness to participate in a PGLP was examined using Fisher's Exact Tests, but with p-values of .161 with liability and .223 without shared liability the associations were not statistically significant.

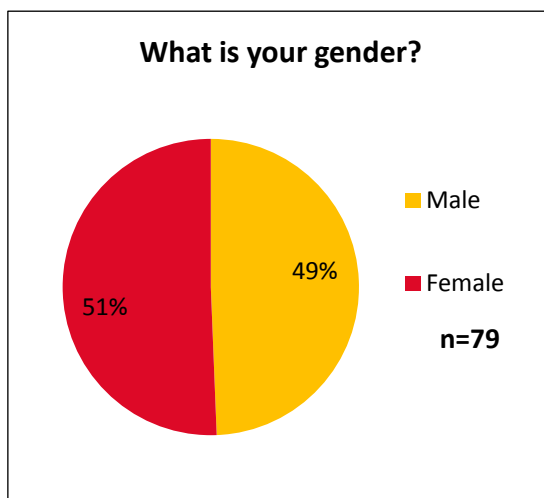


Figure 5: Gender of Survey Respondents

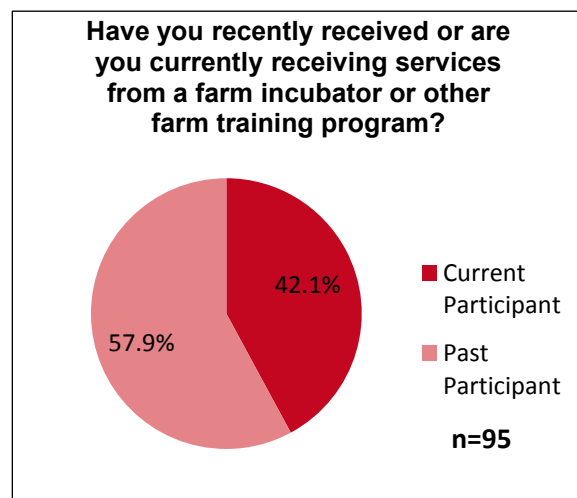


Figure 6: Participation Status

The incubator programs also appear similar based on the responses to questions regarding incubator size, services offered, and length of program participation. The majority of incubators were relatively small, as seen in Figure 7. In an effort to provide a better understanding of the number of incubators in each size category rather than the number of participants in each sized incubator, the responses were grouped based on zip code data. One might expect the small program size to encourage social capital amongst members and foster an environment conducive to PGLPs. However, the small cohorts could

also mean that there are few peers among which to select as a group of borrowers, limiting one's willingness to participate in a shared liability program. This is something reviewed in more detail in the following section.

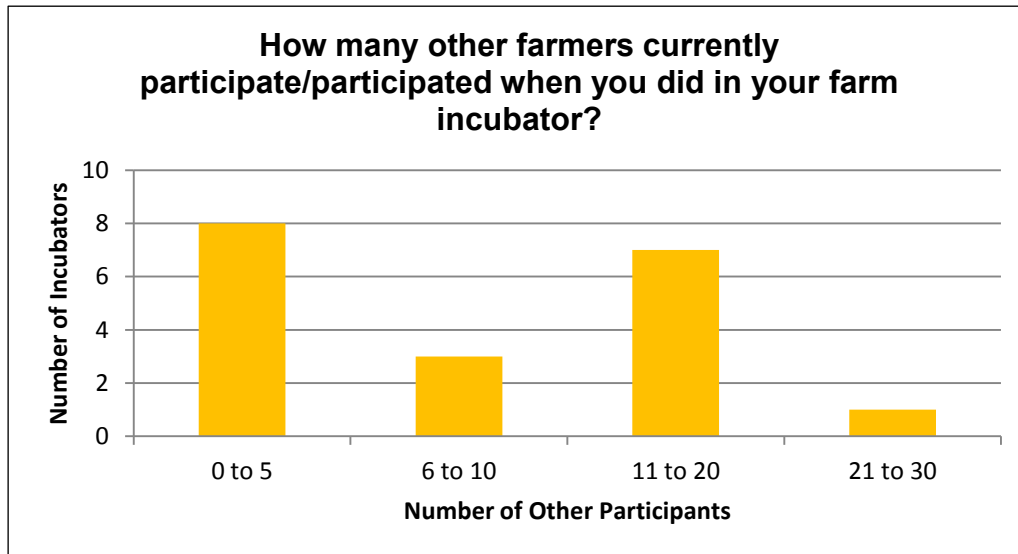


Figure 7: Incubator Size

The length of time one participates in an incubator program may appear at first to vary substantially, until the results are divided into categories of current and past participant responses (see Figure 8, below). Then it becomes apparent that the majority of previous incubator members participated for seven months to less than one year (basically a growing season) with greater variation among current participants. One might expect the difference in duration to play a role in relationship building and willingness to participate in PGLPs, however there was no such correlation detected.

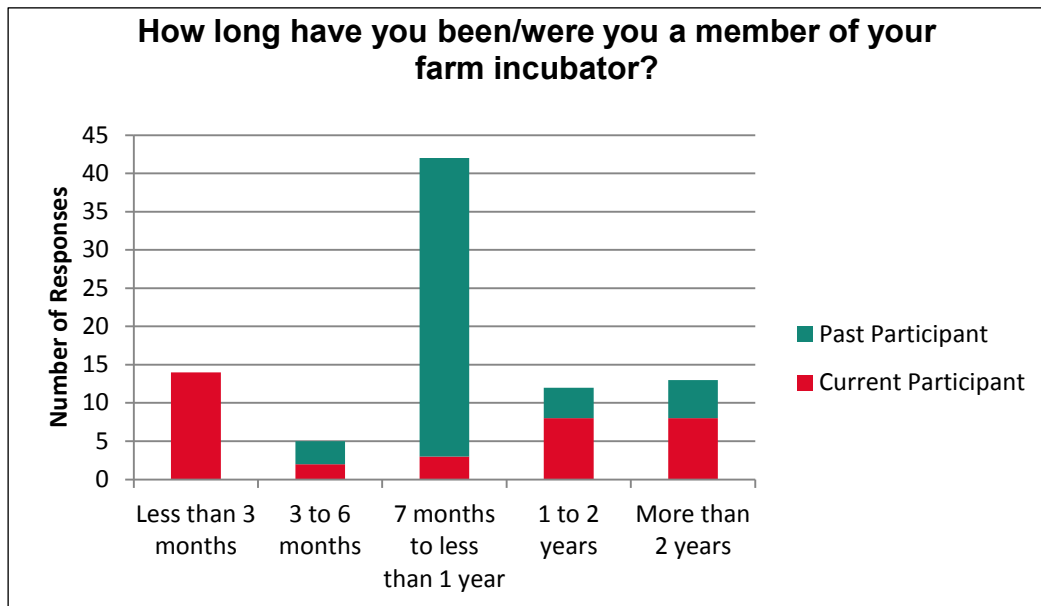


Figure 8: Participation Duration

The services offered by the incubators included all ten categories identified in the survey question (see Figure 9, below) in addition to “mentorship”, a response which was written in by two individuals from different incubators. The other write-in responses to the question regarding incubator-offered services provided more detailed explanations of arrangements that mostly overlapped the categories of training (education), networking, and equipment. The incubator-offered services were totaled by responses, not by incubator since some programs place participants on various sites with different amenities, incubators may have altered their formats and offerings from one class to another, and what is ultimately important is not which services are offered, but which ones are most taken advantage of by participating farmers.

Figure 9 depicts the percentage of respondents recognizing a service was offered by their incubator (“offered”), and the relative utilization of those services (“utilized”). For instance, what one quickly learns is that land is not often sold by incubators (only 9% of respondents were offered that option), but 100% of those respondents who had access to land for sale took advantage of that service, indicating the likely need for such arrangements. This particular option was offered by two programs in the West, one in the Northeast, and one in which the location is unknown, indicating affordable land may not be a location specific demand. Additionally, it is not likely that participants in search of such a service would have self-selected these programs, since the incubators are widely dispersed geographically. Supporting this notion were the responses to what study participants ranked as their greatest challenges to becoming profitable farmers, an issue to which will be returned in a following section. The next section reviews the results of the three hypothesized relationships expected to exist among farm incubator participants regarding their willingness to participate in PGLPs.

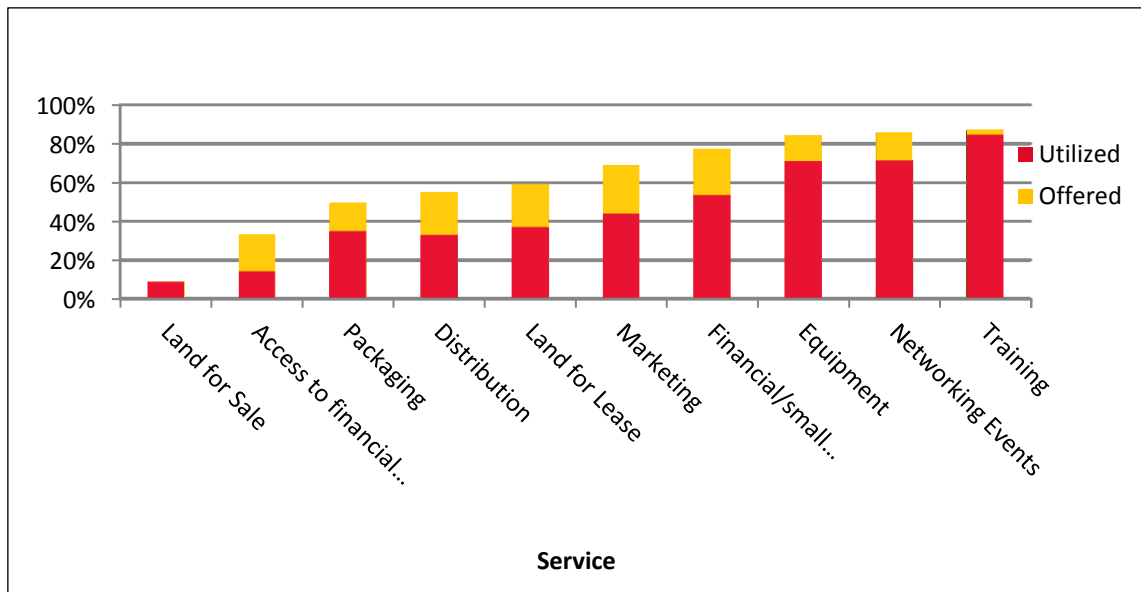


Figure 9: Percentage of Respondents with Access to Services and Relative Utilization

Hypotheses

As suggested by the literature review, there are three primary hypotheses which this study aimed to test. They include the following: (1) Social capital and willingness to participate in a PGLP will be positively correlated; (2) Need for access to financial capital and willingness to participate in a PGLP will be positively correlated; (3) Transportation and associated opportunity costs will be negatively correlated with willingness to participate in PGLPs. Additionally, these hypotheses are based on the expectations that social capital would exist among incubator participants and that willingness to participate in PGLPs would be largely positive among them. These will each be addressed in turn in this section along with additional findings that were made during data collection and analysis.

Hypothesis 1

The first hypothesis is that social capital as captured by several ordinal level measures will be positively associated with willingness to participate in PGLPs. The responses to the social capital questions reveal that most survey participants do exhibit social capital amongst their farmer peers. About 75% of respondents agreed or strongly agreed with three of the four questions regarding social capital among their incubator cohort. The one incongruity was the question addressing whether or not participants felt they came from similar backgrounds with which only 20% of respondents agreed or strongly agreed. This was the case despite the demographic results presented earlier and the strong affirmative response to the question regarding whether or not participants shared similar values. This anomaly may lend itself to further inquiry. What then are the differences among farm incubator participants that are perceived as creating various “backgrounds”? Do they relate to previous education or career choices, socio-economic status, or some other characterization? Do they detract from the social cohesion experienced among incubator cohorts?

For now, the “background” question was given extra attention by producing two separate social capital composite mean scores for each respondent; one including the background response and one excluding it. Additionally, those with an affirmative “background” answer were compared to those with a neutral or negative response. Each of these independent social capital variables were tested for relationships to one’s willingness to participate in

a PGLP using Fisher's Exact Test. Results across each category were not significant, leading one to believe that the feelings an incubatee has regarding one's comparative background with other participants does not significantly change the social dynamics of the group, or that the social cohesion among the members is not strong enough to promote a PGLP structure regardless of the "background" issue.

Other measures of social interaction included reliance on other farmers within and outside of the incubator program and affiliation with organizations or groups outside of the incubator. These were also tested for correlation with willingness to participate in a PGLP. At first, it appears as though there again is no significant relationship. However, when comparing the subset of respondents that reported a high degree of reliance on other farmers within the incubator but a low level of reliance on farmers outside of the incubator, a relationship becomes apparent. Fisher's Exact results reveal that this group of individuals is more inclined to participate in PGLPs, either with or without shared liability enforced, the results of which are presented below in Tables 3 and 4.

	Strong Reliance within Incubator, Low Outside		
Willingness to Participate in a PGLP (with Liability)	No	Yes	Total
No	17	3	20
Yes	12	10	22
Total	29	13	42
		1-sided Fisher's Exact=.035	

Table 3: Fisher's Exact Results - Strong "Within Incubator" Reliance with Willingness to Participate in a PGLP with Shared Liability

	Strong Reliance within Incubator, Low Outside		
Willingness to Participate in a PGLP (without Liability)	No	Yes	Total
No	19	3	22
Yes	21	13	34
Total	40	16	56
		1-sided Fisher's Exact=.043	

Table 4: Fisher's Exact Results - Strong "Within Incubator" Reliance with Willingness to Participate in a PGLP without Shared Liability

Hypothesis 2

The second hypothesis stems from the literature regarding the unbanked and underbanked populations. The expectation is that those who identified a need for access to financial capital are more willing to participate in PGLPs. Similar to the findings regarding the first hypothesis, the association between willingness to participate in PGLPs and measures of financial need were not statistically significant using Fisher's Exact Tests. The variables included in these analyses were whether or not a respondent had used a credit card or taken out a loan for their farming venture in the past year, the rank he/she assigned to "access to financial capital" as a challenge to becoming a profitable farmer, and whether or not he/she utilized incubator-provided access to financial assistance or small business planning. The only significant relationship found was between the willingness to participate in a PGLP with relaxed assumptions (i.e. no joint liability) and whether or not a participant had used incubator-offered small business planning. The results of the Fisher's exact test can be seen in Table 5.

	Utilized Incubator-Provided Financial Planning Services		
Willing to Participate in a PGLP (without Liability)	No	Yes	Total
No	8	8	16
Yes	7	25	32
Total	15	33	48
		1-sided Fisher's Exact=.051	

Table 5: Fisher's Exact Results – Utilization of Business/Financial Planning Services with Willingness to Participate in a PGLP without Shared Liability

A probable explanation would be that those who are using financial planning services are most interested in and open to various financing opportunities. However, this is not supported by tests for relationships among participants' willingness to borrow from other sources and their utilization of incubator-provided financial planning services. Perhaps those exposed to that education were specifically more willing to consider a financing option that involved low interest rates and little need for collateral due to their acquired knowledge of those benefits. However, they were only significantly more willing to participate in the PGLP option once conditions were relaxed, perhaps demonstrating their comprehension of the burdens imposed by shared liability.

The measures of willingness to borrow from other sources were tested for correlation with willingness to participate in a PGLP. Based on initial findings that significant relationships existed among such pairings, a composite mean was constructed to indicate an individual's overall willingness to borrow. The value was calculated as the sum of willingness to use a credit card or borrow (on a five

point scale ranging from “very unlikely” to “very likely”) from a commercial bank, credit union, incubator, friend or relative, and government, divided by six. Though the specification of logistic models more accurately represents a dichotomous dependent variable, linear probability models are simpler to interpret. Thus, both tests were run on the two measures of willingness to participate in PGLPs. With all four tests indicating statistical significance at the 1% confidence level, we can accept the linear probability results suggesting that for a one point increase in one’s willingness to borrow mean score, he/she is 39% more likely to participate in a PGLP with joint liability and 20% more likely to participate in a PGLP with relaxed conditions.

PGLP with Liability	Odds Ratio	Std. Error	z	P> z	95% Conf. Interval	
Composite WTB	11.04342	7.81374	3.39	0.001	1.015068	3.788602
Constant	0.0001276	0.000348	-3.39	0.001	6.08E-07	0.026782

Table 6: Simple Logistic Regression Results – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP with Shared Liability

				Number of obs = 42		
				Prob > F = 0.0000		
				R-squared = 0.3999		
				Adj R-squared = 0.3849		
				Root MSE = .39281		
PGLP with Liability	Coefficient	Std. Error	t	P> t	95% Conf. Interval	
Composite WTB	0.3935553	0.0762224	5.16	0	0.2395041	0.547607
Constant	-0.9762432	0.3058145	-3.19	0.003	-1.59E+00	-0.35817

Table 7: Linear Probability Model – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP with Shared Liability

PGLP without Liability	Odds Ratio	Std. Error	z	P> z 	95% Conf. Interval	
Composite WTB	2.817549	1.119694	2.61	0.009	1.293016	6.139585
Constant	0.0452176	0.0674555	-2.08	0.038	2.43E-03	0.841643

Table 8: Simple Logistic Regression Results – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP without Shared Liability

					Number of obs = 51	
					Prob > F = 0.0036	
					R-squared = 0.1599	
					Adj R-squared = 0.1428	
					Root MSE = .43388	
PGLP without Liability	Coefficient	Std. Error	t	P> t 	95% Conf. Interval	
Composite WTB	0.2020773	0.0661656	3.05	0.004	0.0691126	0.335042
Constant	-0.0949588	0.2629132	-0.36	0.72	-6.23E-01	0.433385

Table 9: Linear Probability Model – Composite Willingness to Borrow (WTB) Mean Regressed on Willingness to Participate in a PGLP without Shared Liability

Hypothesis 3

Based on arguments presented in the literature, increases in transportation costs and/or associated opportunity costs were expected to lead to decreases in willingness to participate in PGLPs. This hypothesis is broken into two pieces, with the transportation costs portion evaluated first. The expectation was tested with Fisher's Exact Tests to analyze the possible relationships between willingness to participate in PGLPs (under the strict and relaxed conditions) and average travel time to one's incubator, the amount of times one

meets with others from his/her incubator each month, and whether or not one is required to attend meetings and events. None of the test results indicated significance among these variables.

Perhaps, among this particular population, travel necessary for work and to interact with other farmers is not considered taxing, especially when compared to other challenges, such as the need for financial capital. After all, transportation costs are relative to what one expects in their chosen location, not to those faced in lesser developed countries. Additionally, transportation costs were ranked the lowest or second lowest challenge among respondents in all regions except the Midwest while access to financial capital was ranked the first or second greatest challenge in all four regions, demonstrating the relativity of the perceived travel cost constraint. Finally, the opportunity costs attached with such trips were mostly considered minor, an issue that is now addressed in more detail.

As mentioned earlier in the text, opportunity costs associated with interaction amongst peers is perceived to be higher in America than in lesser developed countries. This is assumed to detract from the willingness to participate in PGLPs, and is the final piece of hypothesis three examined in this study. Most respondents agreed or strongly agreed that attending meetings with other farmers, current and potential customers, and mentors were all worth their time. There was only one “disagree” response to the question regarding mentors and one “strongly disagree” response to the category of other farmers. Without much variation in responses, it is difficult to know if an increase in perceived

opportunity costs actually does detract from willingness to participate in a PGLP. As with the transportation costs measures, no significant relationships were found among opportunity costs measures and willingness to participate in PGLPs under relaxed or strict conditions.

In the future, perhaps the response categories for such a question should use a scalar range to determine the estimated amount of value associated with such meetings. In comparison to a scale that simply measures the degree to which one feels the meetings are worth his/her time, more variation would likely be attained asking for individual valuations. Additionally, the opportunity costs associated with meeting with other farmers or mentors for farming related education or discussion may be valued more or less than one would value meeting with the same peers for loan approvals. This question could be asked more directly to examine that difference. Again, it seems that the challenges posed by opportunity costs are relative to others faced by a farmer, such as the need for networking, mentorship, financial capital, et cetera.

Additional Findings

In addition to the expected results of the study, several important findings regarding regional differences were identified from the survey results. One measure of interest was the relative survey response rates by region. The sampling frame was unevenly distributed across the country, so different numbers of responses were expected for each of the four U.S. regions. Though

almost 40% of the 75 respondents reporting residential zip code data resided in the West, the response rate for that region was the lowest (See Appendix C). Based on the number of farmers associated with each incubator, the response rate for the West was only 20%, compared with 59%, 55%, and 23% for the Northeast, Midwest, and South respectively (See Appendix C).

This could indicate that there are greater networks, increased levels of peer pressure, and more social cohesion among farmers in the Northeast and Midwest. Another possibility is that the issue of microfinance appealed especially to the farmers in those regions compared to others. Again, based on the literature, either of these notions would lead to the expectation for increased willingness to participate in PGLPs. However, as seen in the Fisher's Exact Test results below, the responses to the PGLP questions were pretty evenly split for farmers in the South and the Midwest with Western respondents most supportive of possible PGLP participation and Northeast participants revealing a preference not to participate whether or not shared liability is enforced. These results may not be statistically significant, but certainly highlight the possibility that peer networks and interest in finance may not be enough to encourage one to participate in a PGLP. Perhaps the abundance of farm incubators and farmers in the West also broadens the scope one has to choose from in selecting a peer group for a PGLP, making some more willing to participate in such a program.

	Region				
PGLP With Liability	Midwest	Northeast	South	West	Total
No	5	7	5	3	20
Yes	4	4	5	13	26
Total	9	11	10	16	46
				Fisher's Exact= .081	

Table 10: Fisher's Exact Results – Willingness to Participate in a PGLP with Shared Liability and Region

	Region				
PGLP Without Liability	Midwest	Northeast	South	West	Total
No	6	6	3	5	20
Yes	7	5	7	20	39
Total	13	11	10	25	59
				Fisher's Exact= .159	

Table 11: Fisher's Exact Results: Willingness to Participate in a PGLP without Shared Liability and Region

The most important and noticeable regional differences and similarities are those regarding the challenges incubator farmers face in becoming profitable farmers. Respondents were asked to rank only their top four challenges. Due to various perceptions and the ambiguity of assigning ranks from “greatest” to “fourth greatest”, it was determined that designating weighted values for each rank would be somewhat arbitrary and would likely skew the data. Thus, if an individual ranked an element as a top four challenge (out of the 13 listed and any

additional ones that could be written in) it received equal weight. Therefore, Figure C-17 includes the ranked challenges for each region, with all rankings (1-4) receiving equal weight and the regions weighted by number of respondents. It is apparent that land costs, equipment costs, time, and access to capital were all reported as the most challenging aspects of profitable farming across regions. This provides valuable insight into the services that are needed through incubator and other farm support programs.

Limitations of the Study

It is inherently difficult to measure social capital, and as these results reveal, the questions presented here were not exhaustive and could not capture the full range of social capital measures. The transportation and opportunity cost measures could have been asked in more direct ways to acquire differentiated and more substantial results. Another challenge was the limited participation in the Spanish version of the survey with only one respondent who was ultimately deemed ineligible to complete it. The Spanish version was generated by a Professor in the Clemson University languages department fluent in Spanish and English and adept at translation. However, due to limited resources, the Spanish version did not undergo a cognitive interview process similar to the English version, possibly leading to unintended and limited responses.

The two questions regarding PGLP participation could have been asked differently as well. In an effort to avoid acquiescence bias, the questions were

asked in a non-leading way. Full descriptions of what PGLPs typically entail were used, but the benefits were not touted as they would be by a microfinance provider. Even with written descriptions, the concept of a PGLP was likely new to many respondents and difficult to fully comprehend without the ability to ask questions and receive verbal feedback. Survey questions were asked leading up to the PGLP inquiries in an attempt to get participants thinking about this concept. First, social capital measures were addressed to encourage respondents to think about their relationships with their colleagues. Then, several questions about current financing strategies one used or was likely to use were asked to generate thoughts on available and accessible financing methods. However, the largest number of responses to both questions was “not sure”, a result that possibly could have been lessened with more straightforward questions or with the ability to explain in an interview setting what was fully meant by PGLP.

Finally, one challenge to the study design arose from the inability to distribute the survey to all farmers or all incubator staff. Some incubator staff preferred to send the survey and reminders to their farmers, while others provided their participants' contact information for direct communication with the survey administrator. The farmers for whom contact information was obtained received their reminders in a timely manner. However, there were no means of knowing whether the same was true for the farmers being contacted by the incubator staff acting as liaisons. On the contrary, those that were being

contacted and reminded directly may not have been as likely to respond as those who were receiving emails and possibly verbal reminders from their incubator staff members with whom they were already familiar and may have felt more inclined to help. Of the 72 respondents reporting an incubator zip code, 19 were contacted directly and 53 by incubator staff. This yields a 61% response rate for those contacted directly compared to a 23% rate for those contacted by a liaison.

Recommendations for Application

Based on the findings of this study, there are farm incubator participants that would be willing to borrow through a Peer Group Lending Program. However, the results are not as ubiquitous as anticipated and further research is needed to determine if such a financing strategy could be used on a reasonable scale. If a microfinance institution or incubator is interested in utilizing a PGLP strategy, they should start by marketing to those individuals who are already willing to borrow from other sources such as commercial banks, credit unions, and friends and relatives. Additionally, those who are heavily reliant on their fellow incubator farmers and mentors but not necessarily involved with wider farming networks may be prime targets. More context-specific research, perhaps at the regional, local, or incubator scale should be conducted to determine the extent to which PGLPs can be utilized, if at all, within a particular locale. Interviews and other means typical of market analyses are recommended.

Even if not a plea for a PGLP strategy, the recognized need for financing mechanisms geared towards, and readily accessible by, beginning farmers is invaluable. Additionally, the ability for incubators to partner with other institutions and organizations to offer subsidized land and equipment or arrangements for the lease or sharing of such resources should likely be a major focus of incubators in all regions. The fact that so many incubator farmers feel they are strapped for time to devote to becoming profitable farmers may be indicative of the fast pace of our society in general. Just as probable is the likelihood that many beginning farmers are required to split their time between farming and another occupation. Again, perhaps this is a cry for upfront capital investment in such ventures, a role that incubators can help facilitate.

Conclusions and Further Research

If social cohesion and need for financing were the strong predictors they were expected to be among farm incubatees, this would be a likely population for whom PGLPs would work. Social capital did appear to exist rather abundantly and need for access to financial capital was certainly recognized as a challenge, yet the results were not overwhelming. As far as the implications this has for the broader population of farmers, those involved in local food systems, and other socially engaged groups, it is difficult to say. It appears that possibly smaller niche groups such as those incubatees relying on other farmers only within their incubators may need to be identified and targeted for PGLP participation.

Additionally, the need to establish more sound measures of social capital that account for contextual differences was highlighted. The unique responses to the “similar background” measure of social capital from this survey reveal an area to examine among farm incubator participants as well as other groups targeted for PGLPs. Again, one can see the need for research focused on a specified target population to fully comprehend their financial needs and social preferences. This will likely require research methods such as interviews and case studies that allow for more direct dialog with affected or potentially affected cohorts.

APPENDICES

Appendix A: Farm Incubators in Study

	Organization Name	City	State
1	Adelante Mujeres	Forest Grove	OR
2	Community CROPS (Combining Resources, Opportunities and People for Sustainability)	Lincoln	NE
3	Community Farm of Simsbury Inc.	Simsbury	CT
4	Cultivate Kansas City and Catholic Charities of Northeast Kansas	Kansas City	KS
5	Duluth Community Farm (Growing Farms)	Duluth	MN
6	Elma C Lomax Farm Incubator	Concord	NC
7	Farley Center Farm Incubator	Verona	WI
8	Growing Agripreneurs	Central Point	OR
9	Horn Farm Center	York	PA
10	Huerto de la Familia	Eugene	OR
11	Lowcountry Local First: Dirt Works	North Charleston	SC
12	Maverick Farms (FIG)	Valle Crucis	NC
13	Oregon State University Extension Service and Multnomah County	Portland	OR
14	Rogue Farm Corps	Ashland	OR
15	Seattle Tilth: Farm Works	Seattle	WA
16	Sustainable Urban Agriculture Initiative	Charleston	WV
17	The Groundswell Center for Local Food & Farming	Ithaca	NY
18	The Intervale Center	Burlington	VT
19	The Seed Farm	Emmaus	PA
20	Tilian Farm Development Center	Ann Arbor	MI
21	Viva Farms	Mount Vernon	WA

Table A-1: Final List of Study Incubators and Respective Locations

Appendix B: Fisher's Exact Tests P-Values

Independent Variables	Dependent Variables		Direction
	PGLPLiab	PGLP)Total	
Social Capital Composite	.115	.501	NA
Social Capital w/o Background	.476	.160	NA
Affirmative Background Response	.246	.187	NA
Reliance Within Incubator	.437	.102	Positive
Reliance Outside of Incubator	.584	.732	NA
Strong Incubator Reliance Only	.035*	.043*	Positive
Organizational Membership	.251	.560	NA
Rank of Access to Capital Challenge	.864	.658	NA
Incubator Access to Financial Assistance	.283	.299	NA
Incubator Small Business Planning Used	.445	.051	Positive
Credit Card Use	.228	.455	NA
Loan Use	.235	.619	NA
Commercial Loan Willing?	.008**	.129	Positive
Incubator Loan Willing?	.000**	.015*	Positive
Credit Union Loan Willing?	.004**	.082	Positive
Friend/Relative Loan Willing?	.017*	.046*	Positive
Savings Willing?	.647	.234	NA
Credit Card Use Willing?	.209	.213	NA
Gov't Loan Willing?	.003**	.420	Positive
Composite Willingness to Borrow (commercial, credit union, friend, incubator, government)	.075*	.124	Positive
Travel Time	.419	.408	
Farmer Opp. Cost	.795	.356	NA
Mentor Opp. Cost	.276	.290	NA
# of Meetings/Month	.224	.741	NA
Attendance Required?	.245	.451	NA

Table B-1: P-Values for All Fisher Exact Tests
*Significant at the 5% level; **Significant at the 1% level.

Appendix C: Survey Responses

Respondent Characteristics

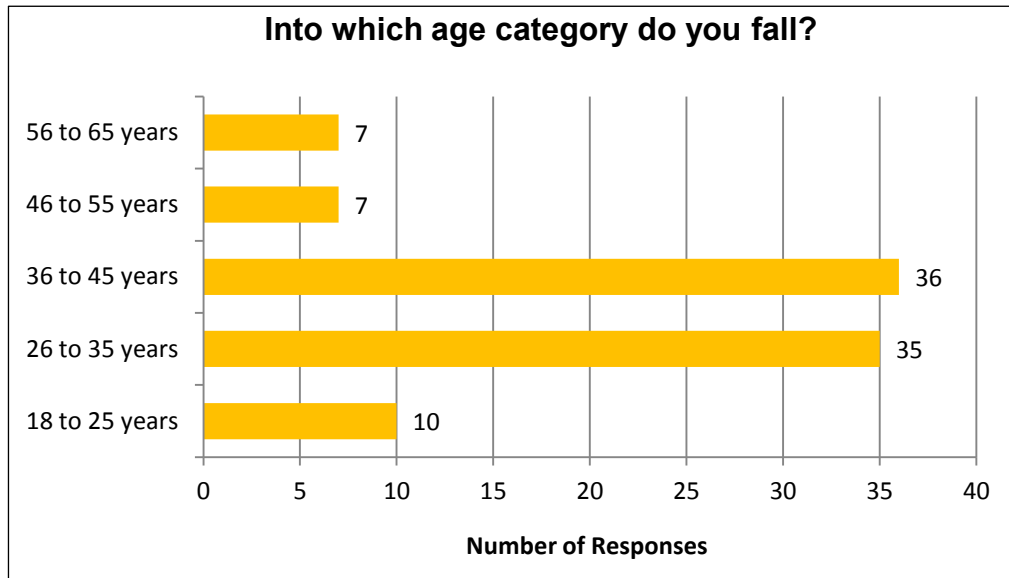


Figure C-1: Age

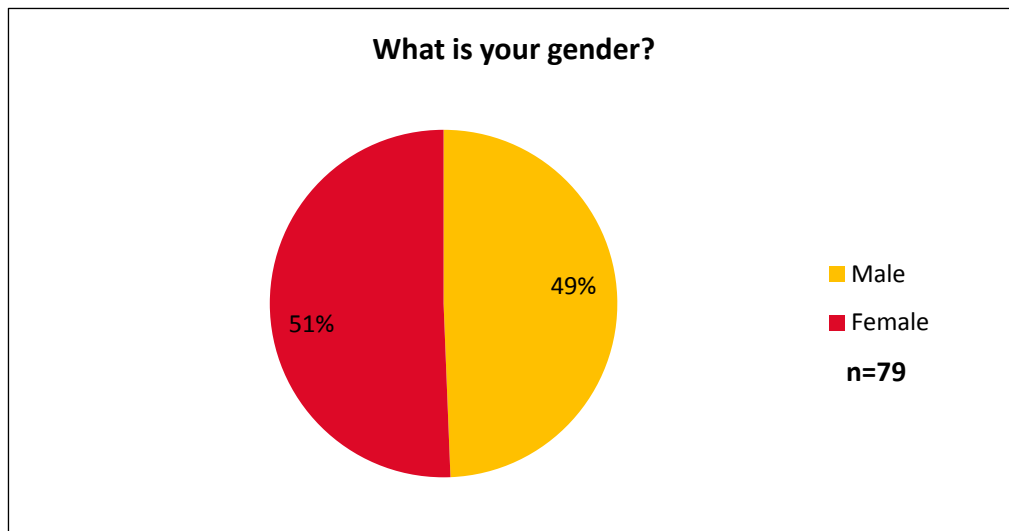


Figure C-2: Gender

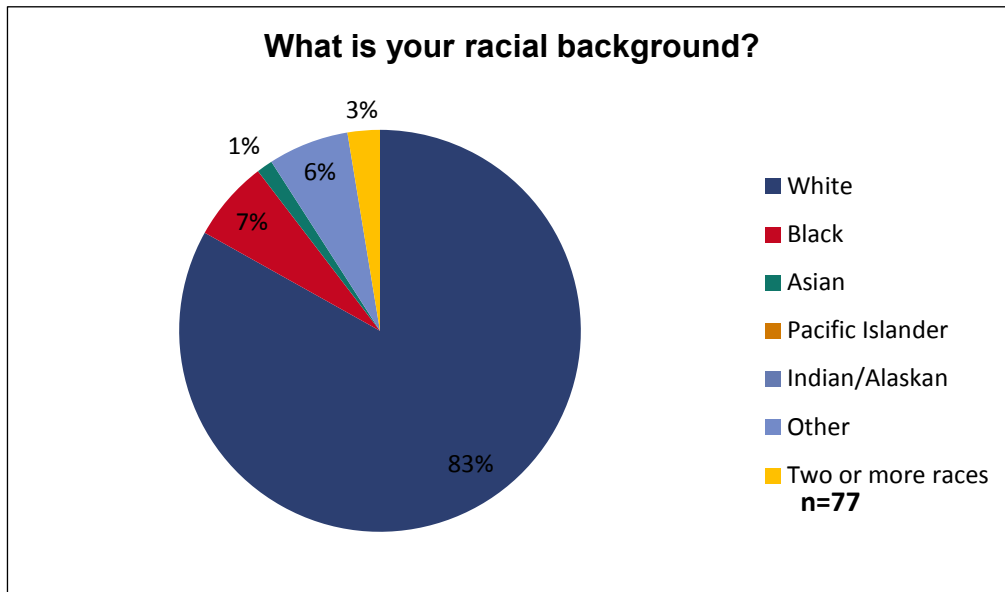


Figure C-3: Race

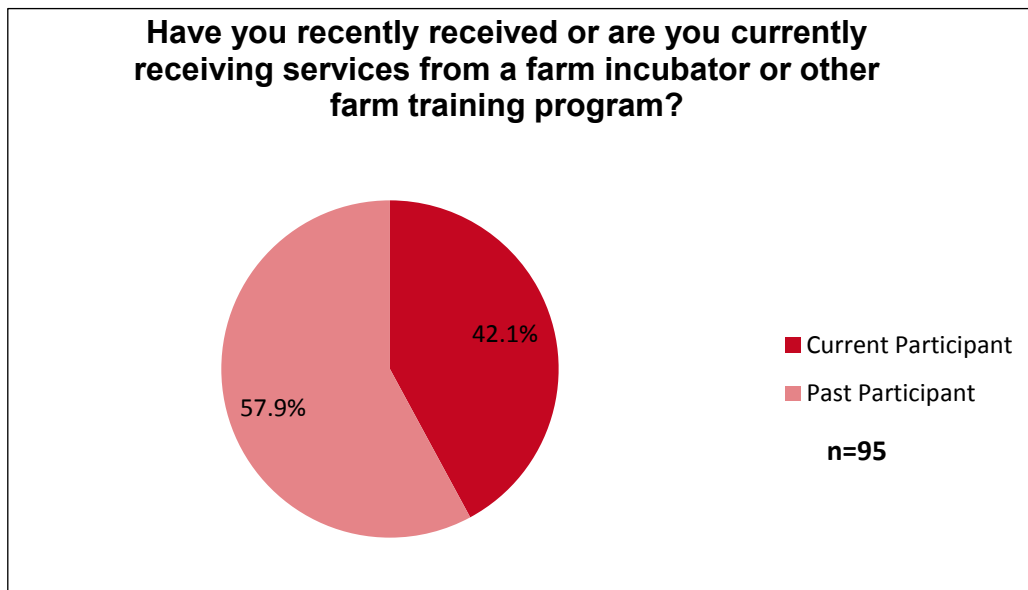


Figure C-4: Participation Status

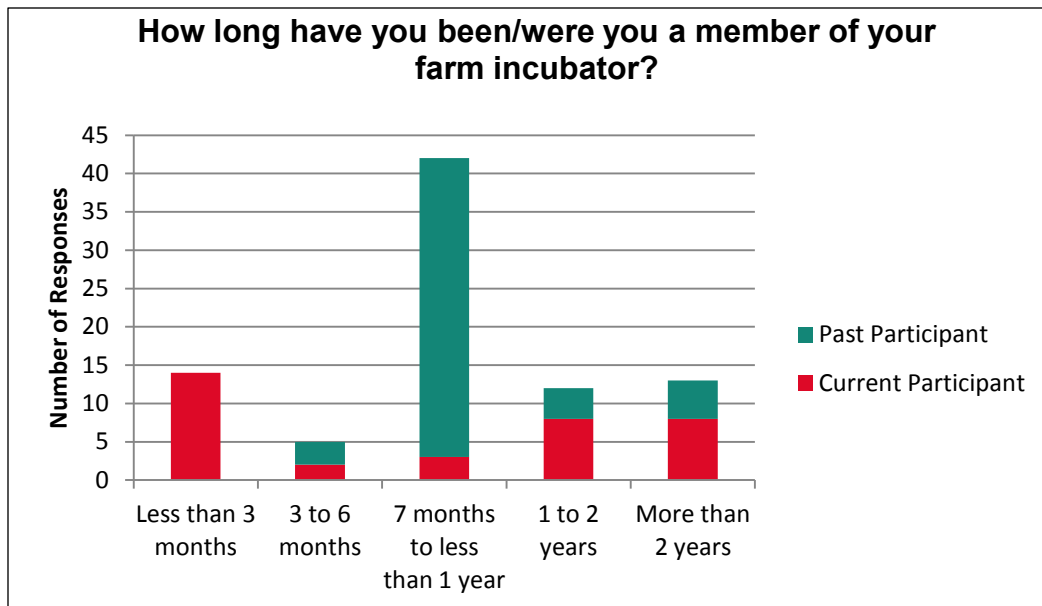


Figure C-5: Duration of Participation

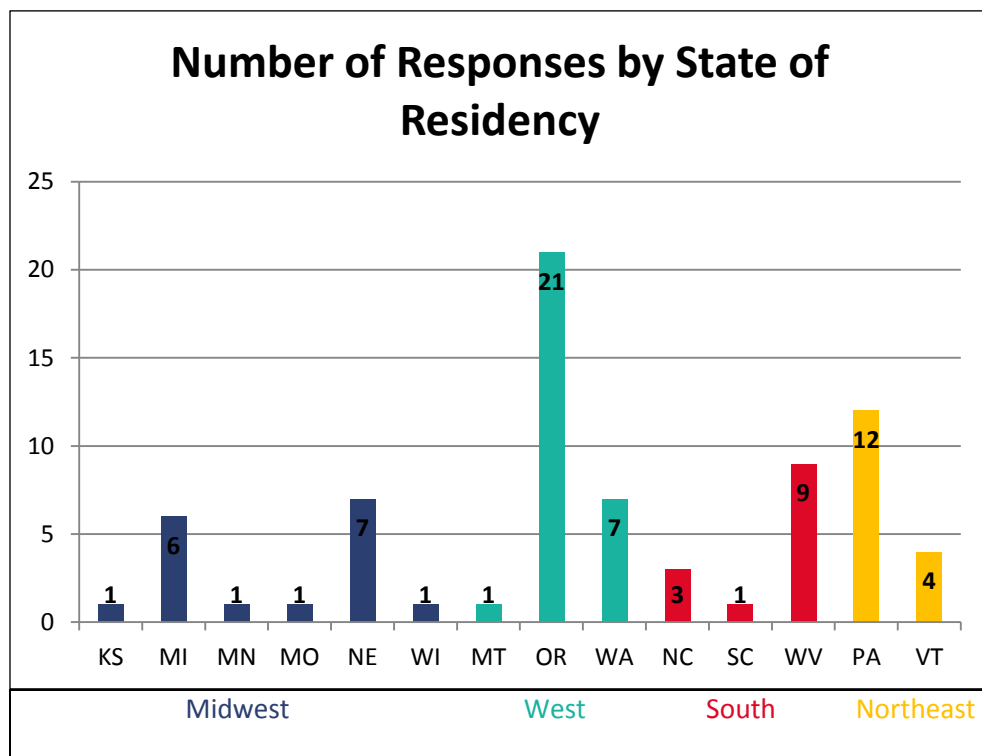


Figure C-6: Responses by State and Region of Residency

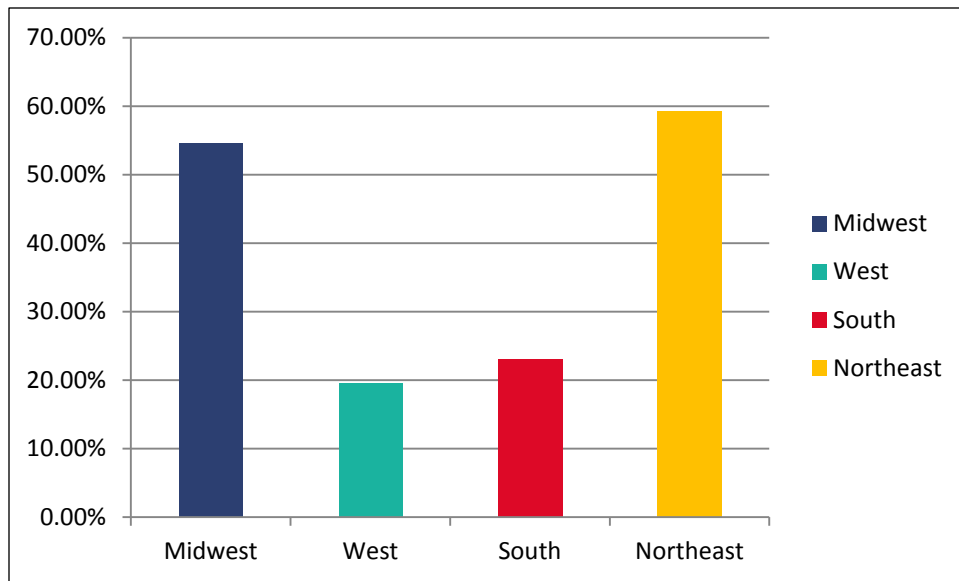


Figure C-7: Response Rates by Region

Incubator Characteristics

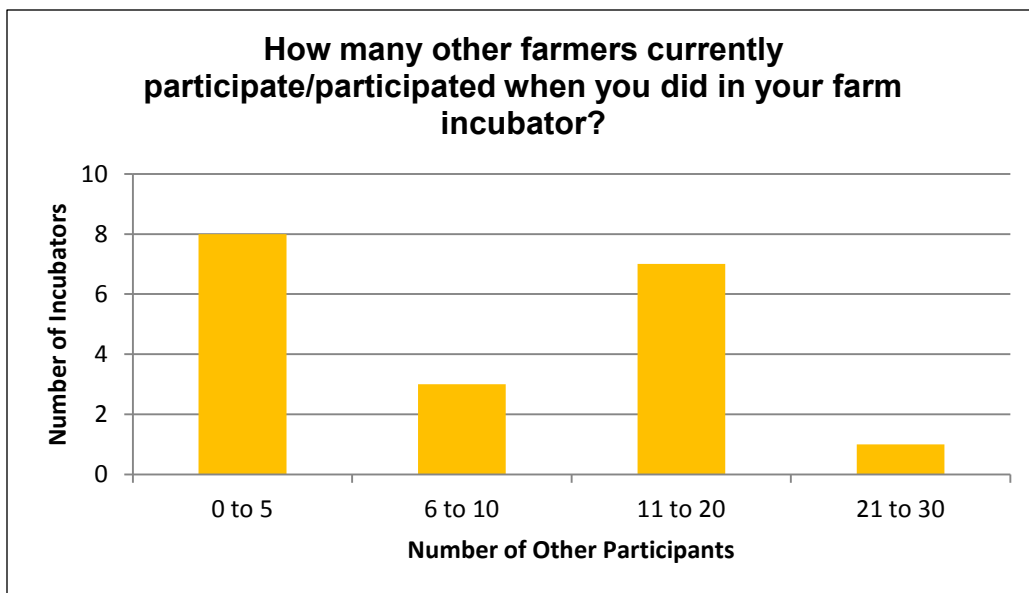


Figure C-8: Incubator Size

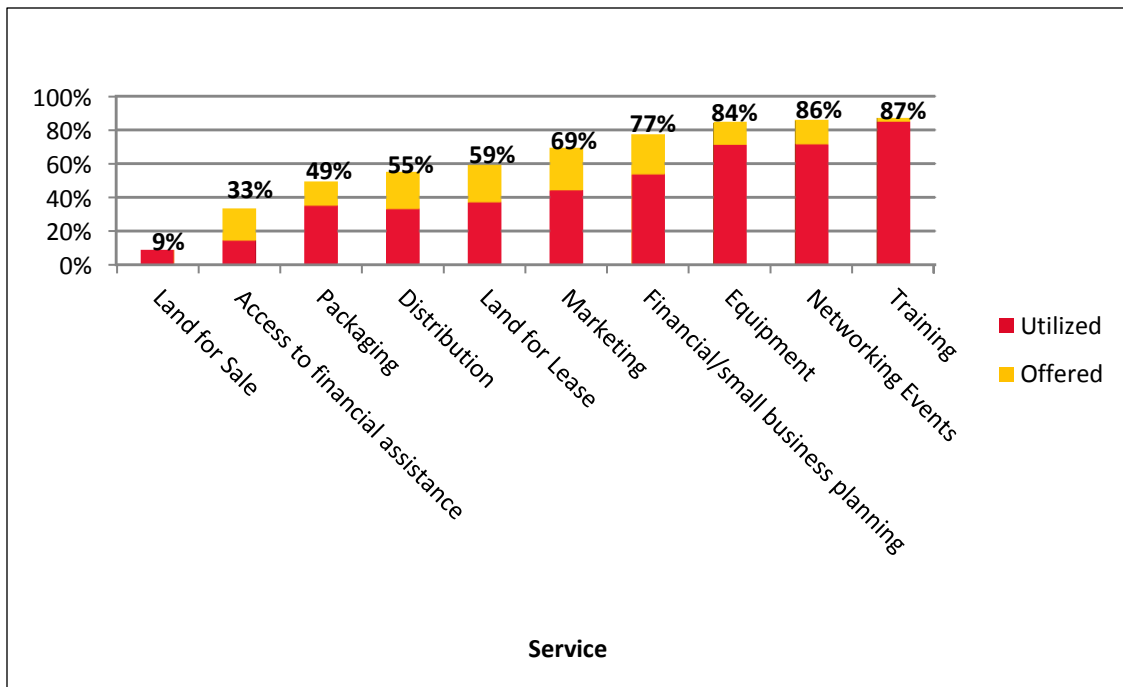


Figure C-9: Services Offered by Incubators and Used by Participants

Social Capital Proxies

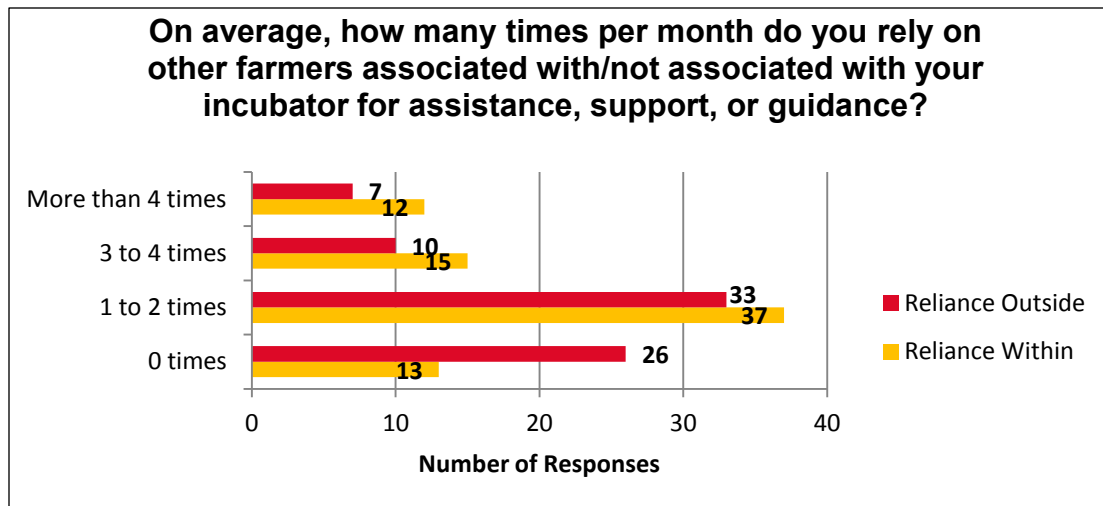


Figure C-10: Reliance on Other Farmers

To what extent do you agree or disagree with the following four statements?

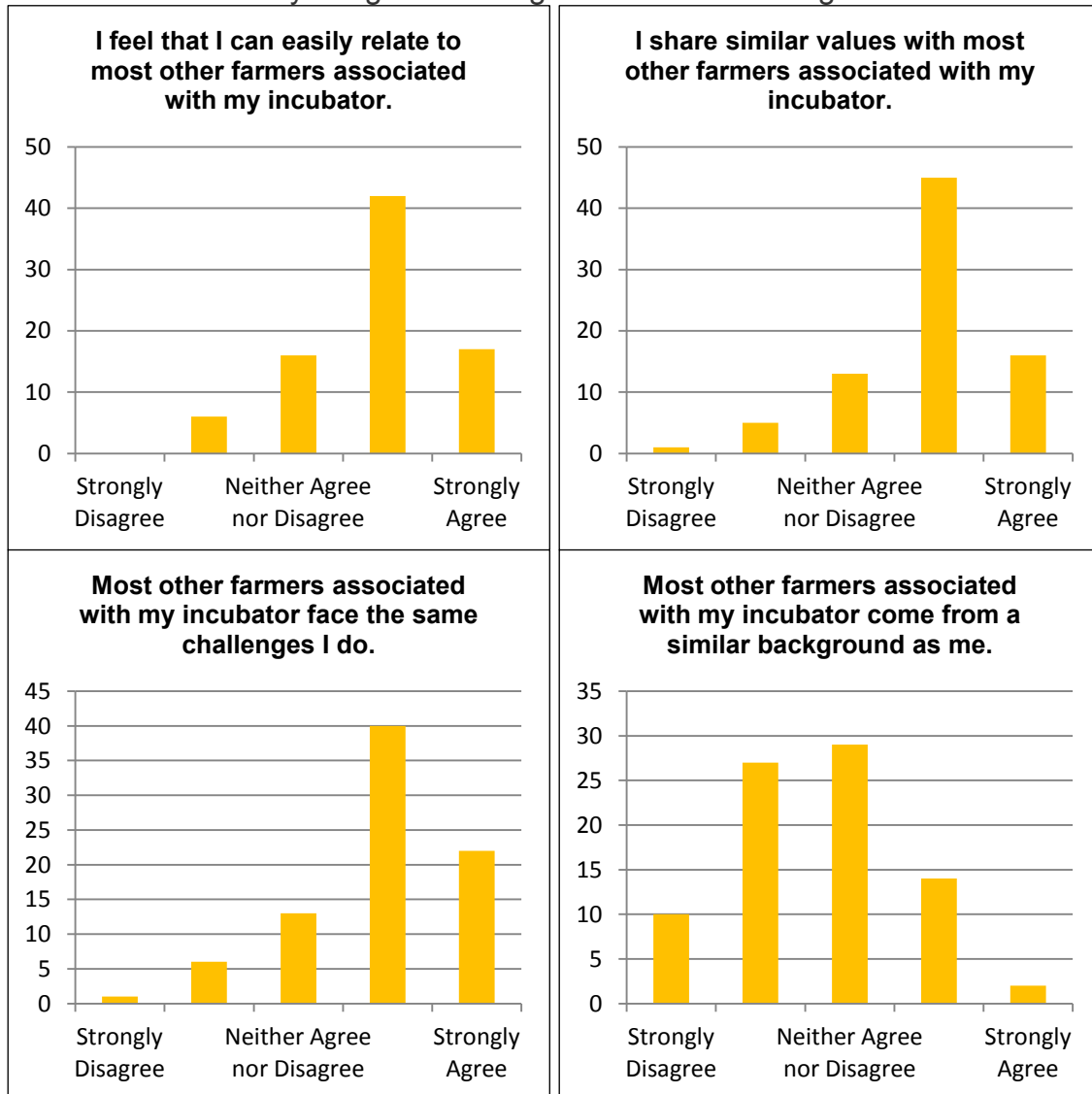


Figure C-11: Social Capital Proxies

Apart from the incubator, are you involved in any local level organizations, groups, associations, or programs that relate to farming (such as a Community Supported Agriculture (CSA) group, mutual water district, producer association, Farm to School progr

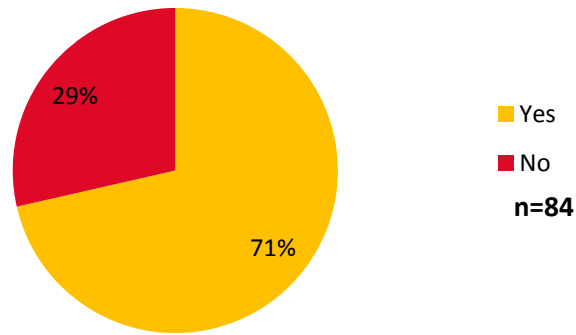


Figure C-12: Organizational Involvement

Travel Cost Measures

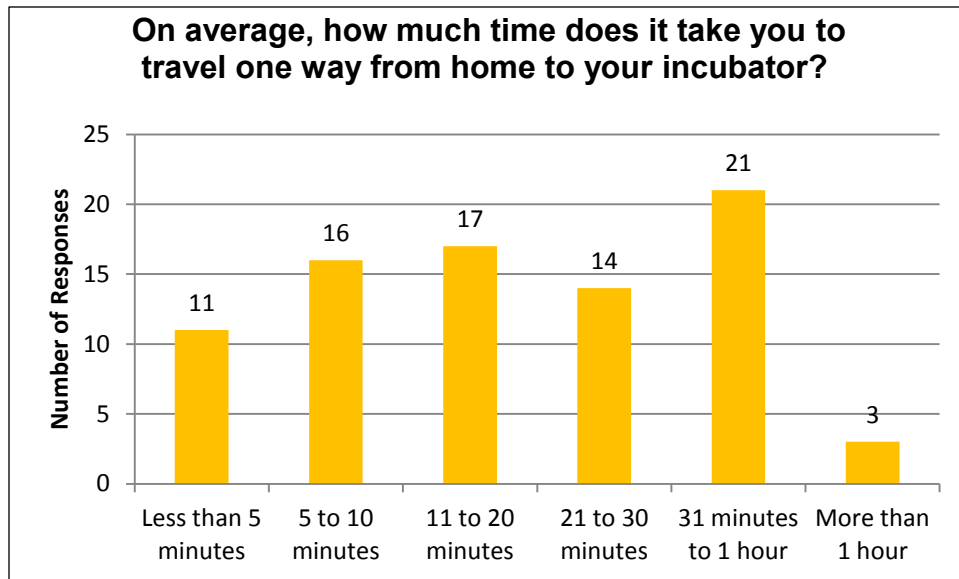


Figure C-13: Travel Time to Incubator

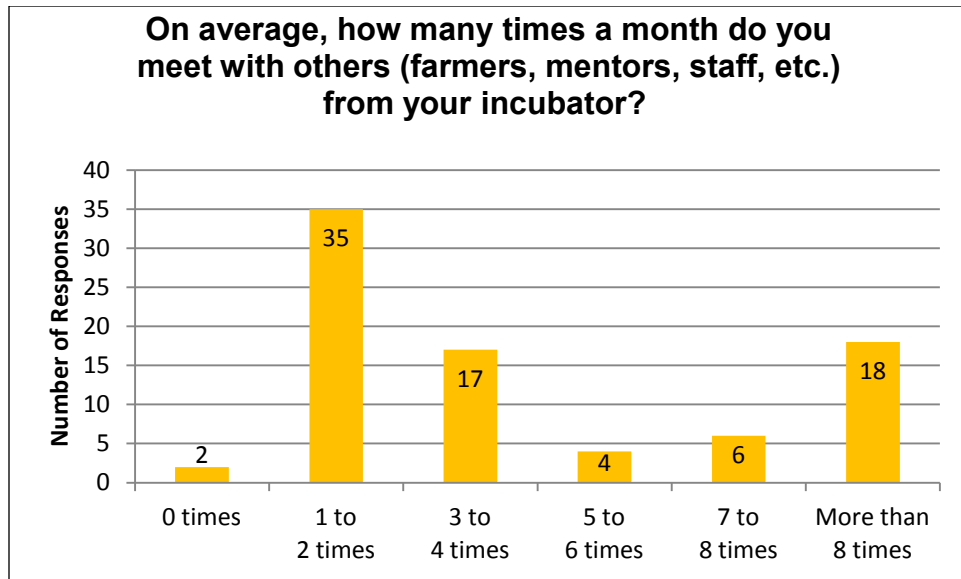


Figure C-14: Incubator Meetings per Month

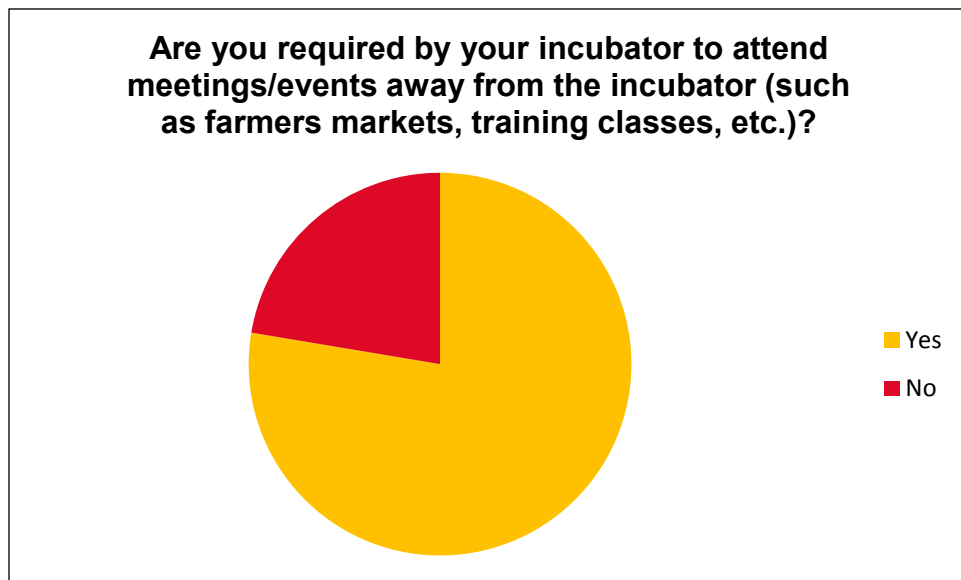


Figure C-15: Incubator Required Meetings

Opportunity Cost Approximations

To what extent do you agree or disagree with the following three statements?

- I feel that required meetings/events with other farmers are worth my time.
- I feel that required meetings/events with current or potential customers are worth my time.
- I feel that required meetings/events with mentors, staff, and trainers are worth my time.

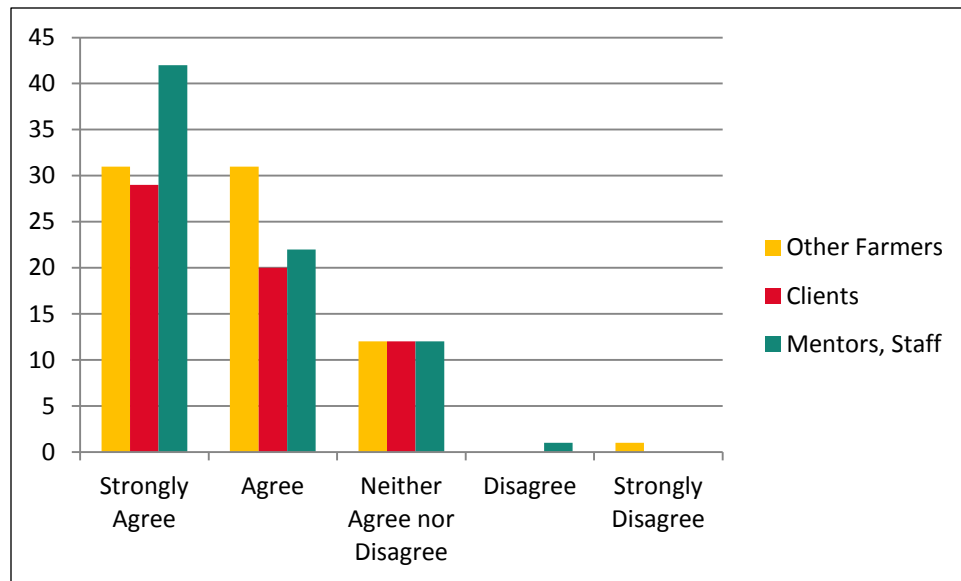
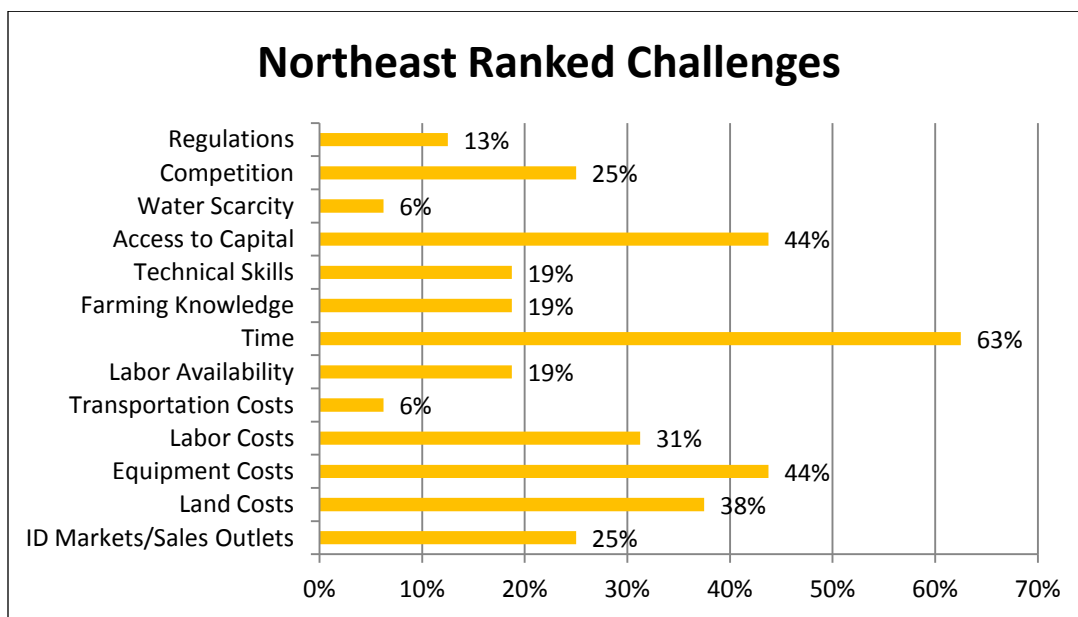
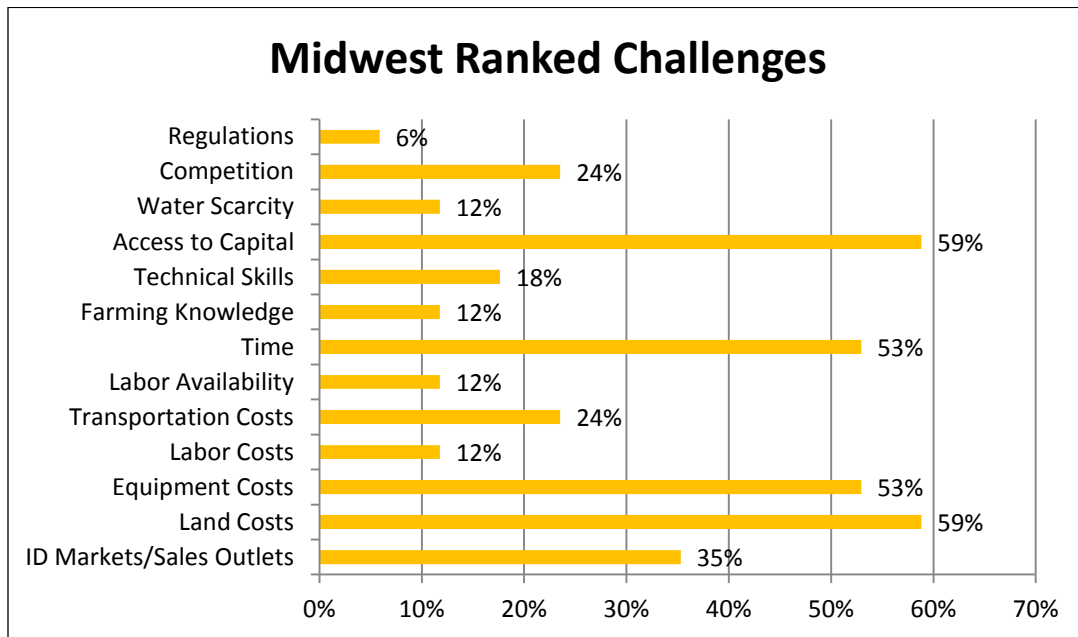


Figure C-16: Opportunity Costs of Incubator Participation

Identified Challenges



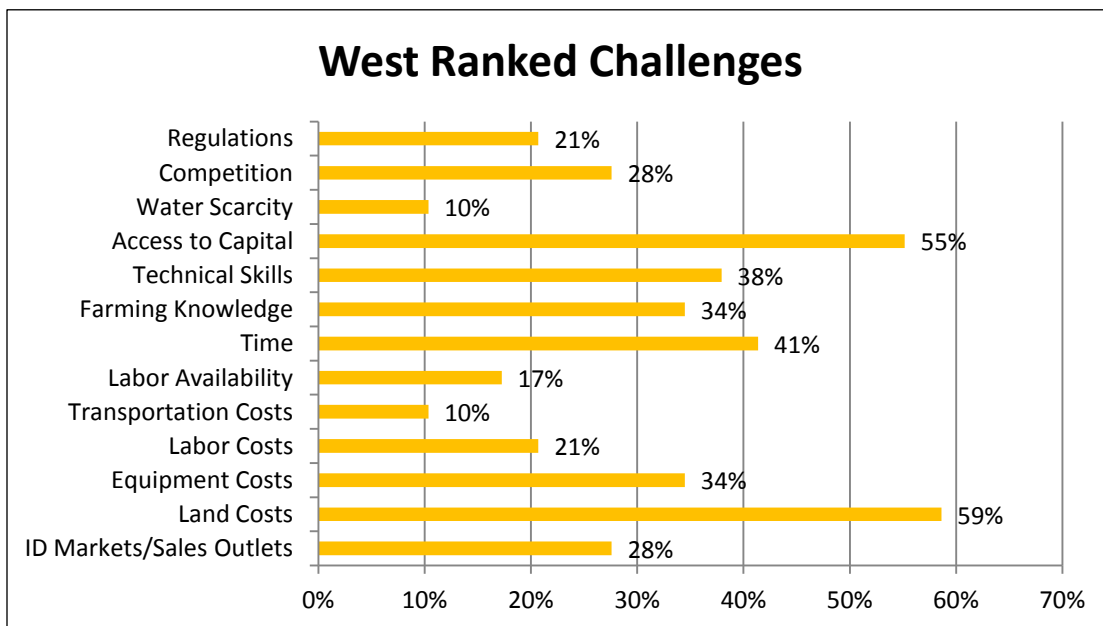
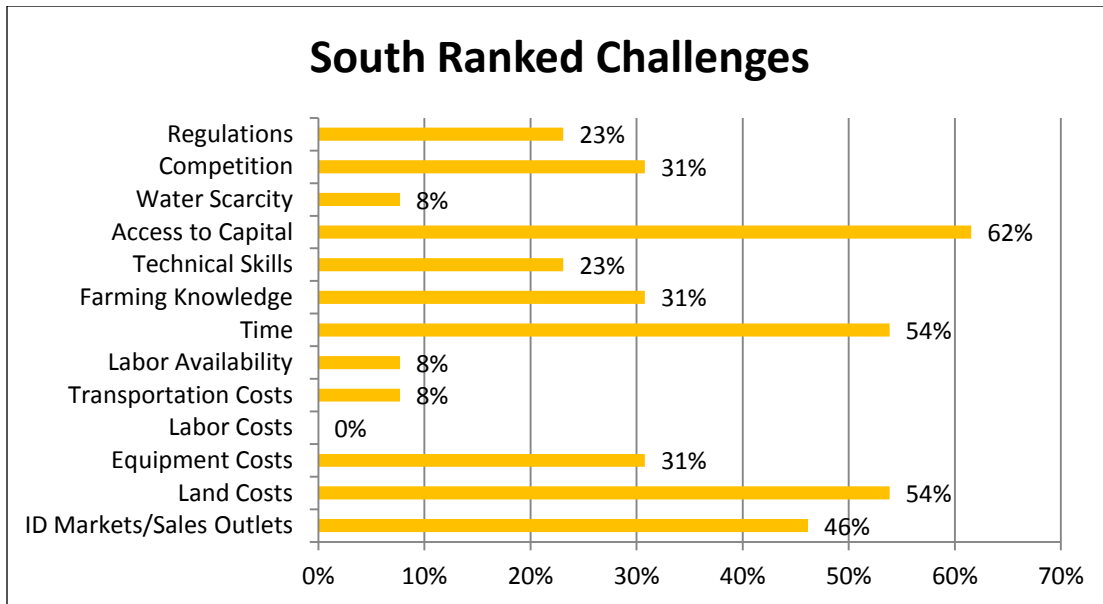


Figure C-17: Challenges by Region

Appendix D: Survey Flow Chart

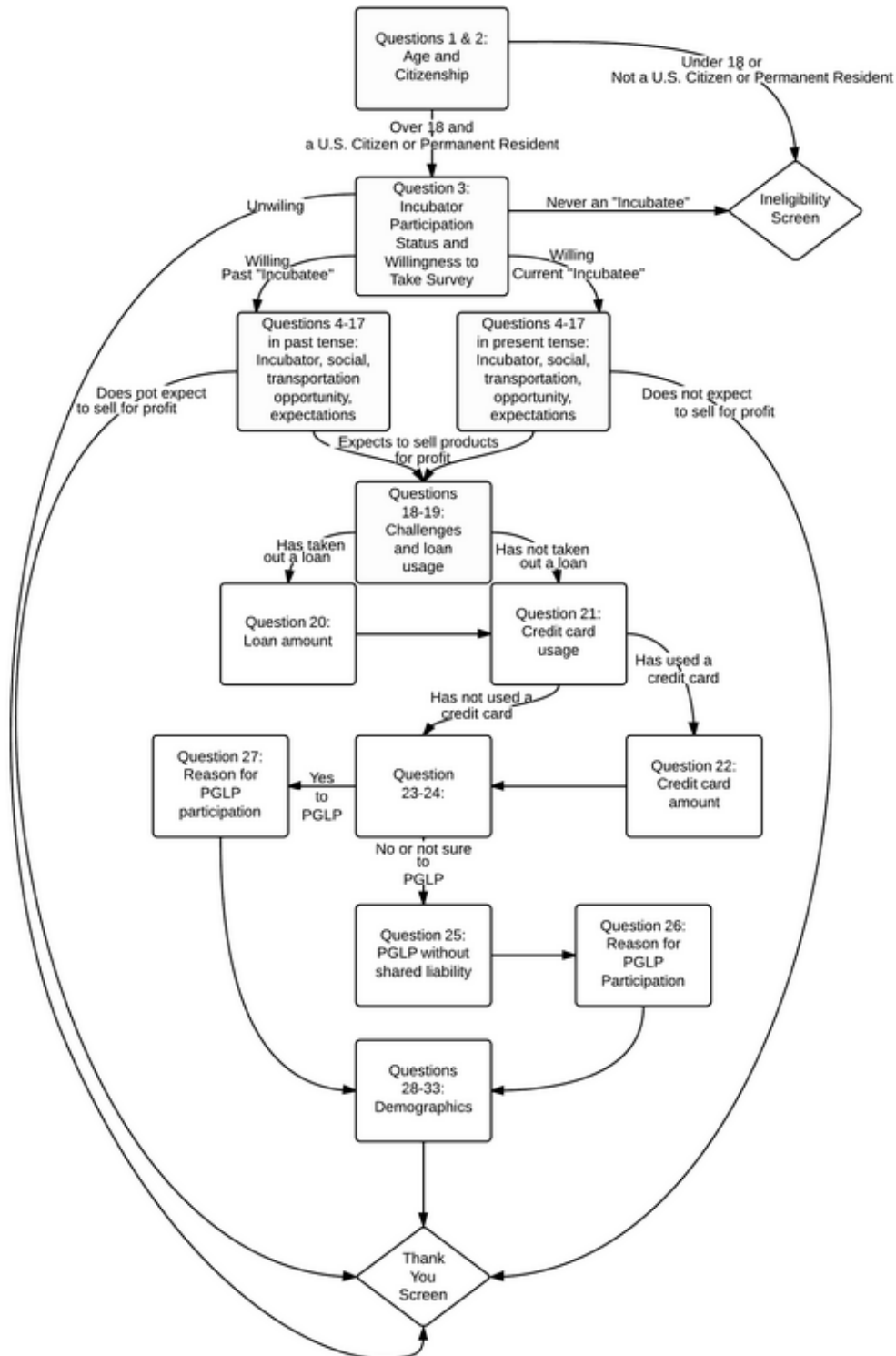


Figure D-1: Survey Question Flow Diagram

Appendix E: Survey

Incubator Farmers and Microfinance¹

Introduction

This survey has been created to gain insights about farm incubators, farmers associated with those incubators, and how these farmers can better be served financially. It is divided into several sections relating to you, your incubator or training program, challenges you face, and opportunities available to you.

The survey is intended for farmers who meet the following four criteria:

1. Must be a U.S. citizen or lawful permanent resident (with a valid “green card”)
2. Must be at least 18 years old
3. Must have lived in the United States for at least 1 year
4. Must currently be receiving services or have recently received services from a farm incubator (The term ***“incubator”*** will be used throughout this survey to mean the apprenticeship or farm training program with which you are associated and from which you were selected to participate in this study.)

Your answers to this survey are crucial for generating a broader base of knowledge about successful farm incubation and the means by which farmers in incubators are receiving services and acquire or seek to acquire financing. Your responses are extremely important for guiding practitioners and researchers in evaluating and creating methods by which to provide services and capital access to farmers like you.

Should you decide to participate in this research, your responses to this survey will be completely anonymous. The survey author will never under any circumstances report individual responses to questions in such a way as to identify a particular respondent.

Thank you very much for your time and interest in helping us by completing this survey.

¹The survey presented here represents all the questions from the English version asked in present tense. See Appendix D for a better understanding of skip logic used.

This first section will ask questions to ensure you are eligible to complete this survey.

1. Into which age category do you fall? (Please select one.)
 - ☐ Under 18 years
 - ☐ 18 to 25 years
 - ☐ 26 to 35 years
 - ☐ 36 to 45 years
 - ☐ 46 to 55 years
 - ☐ 56 to 65 years
 - ☐ 66 to 75 years
 - ☐ 76 to 85 years
 - ☐ 86 years and over
2. Are you a U.S. citizen or legal permanent resident who has lived in the United States for more than 1 year? (Please select one.)
 - ☐ Yes
 - ☐ No
3. Have you recently received or are you currently receiving services from a farm incubator or other farm training program, and are you willing to take this survey? (Please select one.)
 - ☐ Yes I am currently receiving services from a farm incubator and am willing to take this survey.
 - ☐ Yes I have recently (in the past 5 years) received services from a farm incubator and am willing to take this survey.
 - ☐ No, I have not recently received nor am I currently receiving services from a farm incubator.
 - ☐ No, I am not willing to take this survey.

This section will ask general questions about the incubator with which you are affiliated and your association with that incubator.

4. How many other farmers currently participate in your farm incubator?

(Please select one.)

- ☐ 0 to 5
- ☐ 6 to 10
- ☐ 11 to 20
- ☐ 21 to 30
- ☐ 31 to 50
- ☐ 51 to 100
- ☐ More than 100
- ☐ Not sure

5. How long have you been a member of your farm incubator? (Please select one.)

- ☐ Less than 3 months
- ☐ 3 to 6 months
- ☐ 7 months to less than 1 year
- ☐ 1 to 2 years
- ☐ More than 2 years

6. Please select whether or not each of the following services is provided by your incubator. (Please select one option per row.)²

	Yes	No	Not sure
Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial/small business planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to financial assistance (ex. Loans, grants, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Networking events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Packaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land for lease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land for sale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other service(s) offered (please specify) _____

² All questions utilizing charts were spaced evenly in the online version of the survey but were adapted to fit the margins of this paper.

7. Of the services your incubator provides, which one(s) have you personally used? (Please select one option per row.)

	Have Used	Have Not Used	Not Applicable
Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial/small business planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to financial assistance (ex. Loans, grants, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Networking events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Packaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land for lease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land for sale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other service(s) you have used (please specify)_____

This section asks questions to address relationships among farmers both associated with and not associated with your incubator.

8. On average, how many times per month do you rely on other farmers associated with your incubator for assistance, support, or guidance?

(Please select one.)

- ☐ 0 times
- ☐ 1 to 2 times
- ☐ 3 to 4 times
- ☐ More than 4 times
- ☐ Not sure

9. To what extent do you agree or disagree with the following four statements? (Please select one option per row.)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Sure
Most other farmers associated with my incubator face the same challenges I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I share similar values with most other farmers associated with my incubator.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most other farmers associated with my incubator come from a similar background as me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I can easily relate to most other farmers associated with my incubator.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Apart from the incubator, are you involved in any local level organizations, groups, associations, or programs that relate to farming (such as a Community Supported Agriculture (CSA) group, mutual water district, producer association, Farm to School program, etc.)? (Please select one.)

- ☐ Yes
- ☐ No

11. Which organization(s) related to farming are you most engaged with?
(Please list up to three.)

1. _____
2. _____
3. _____

12. On average, how many times per month do you rely on other local farmers not associated with your incubator for assistance, support, or guidance? (Please select one.)

- ☐ 0 times
- ☐ 1 to 2 times
- ☐ 3 to 4 times
- ☐ More than 4 times
- ☐ Not sure

This section asks questions regarding the travel costs you face in being an incubator farmer.

13. On average, how much time does it take you to travel one way from home to your incubator? (Please select one.)

- ☐ Less than 5 minutes
- ☐ 5 to 10 minutes
- ☐ 11 to 20 minutes
- ☐ 21 to 30 minutes
- ☐ 31 minutes to 1 hour
- ☐ More than 1 hour

14. On average, how many times a month do you meet with others (farmers, mentors, staff, etc.) from your incubator? (Please select one.)

- ☐ 0 times
- ☐ 1 to 2 times
- ☐ 3 to 4 times
- ☐ 5 to 6 times
- ☐ 7 to 8 times
- ☐ More than 8 times

15. Are you required by your incubator to attend meetings/events away from the incubator (such as farmers markets, training classes, etc.)? (Please select one.)

- ☐ Yes
- ☐ No
- ☐ Not sure

This section asks questions about the perceived costs of participating in an incubator.

16. To what extent do you agree or disagree with the following three statements? (Please select one option per row.)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Applicable	Not Sure
I feel that required meetings/events with other farmers are worth my time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that required meetings/events with current or potential customers are worth my time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that required meetings/events with mentors, staff, and trainers are worth my time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section will ask about your farming expectations after incubator participation.

17. Do you expect to produce goods for sale to others after you complete your incubator experience?

- ☐ Yes
- ☐ No
- ☐ Not sure

This section addresses challenges you perceive in becoming a profitable farmer.

18. Please rank the top four challenges you currently face in becoming a profitable farmer in your area. (Please select one option per column.)

	Greatest Challenge	2 nd Greatest Challenge	3 rd Greatest Challenge	4 th Greatest Challenge
Transportation costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farming knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labor costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labor availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identifying marketing/sales outlets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to capital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water scarcity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other challenge (please specify) _____

This section asks questions about how you acquire or seek to acquire financial resources for your farming business.

19. Not including credit card use, have you taken out any loans to secure resources for your farming business in the past year? (Please select one.)

- ☐ Yes
- ☐ No
- ☐ Not sure

20. Considering these loan(s) you received over the past year for your farming business (from banks, credit unions, family members, etc.), in what range would you estimate the total amount falls? Please do not include credit card usage. (Please select one.)

- ☐ Less than \$5,000
- ☐ \$5,000 to \$9,999
- ☐ \$10,000 to \$19,999
- ☐ \$20,000 to \$29,999
- ☐ \$30,000 to \$35,000
- ☐ More than \$35,000

21. Have you used a credit card to secure resources for your farming business in the past year? (Please select one.)

- ☐ Yes
- ☐ No
- ☐ Not sure

22. Approximately how much have you charged to your card(s) in the past year? Please only consider charges for acquiring resources for your farming business. (Please select one.)

- ☐ Less than \$1,000
- ☐ \$1,000 to \$2,499
- ☐ \$2,500 to \$4,999
- ☐ \$5,000 to \$10,000
- ☐ Greater than \$10,000

23. Currently, how likely or unlikely are you to use the following resources to obtain capital for your farming business? (Please select one option per row.)

	Very Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Very Unlikely	Not Sure
Credit card	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Credit union loan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commercial bank loan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loan from a friend or relative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government loan (ex. Beginning Farmer and Rancher loans)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other resource(s) (please specify) _____

This section asks questions about possible participation in a microfinance peer group lending program.

The definitions provided below will help in answering the questions in this section.

Definitions

Microfinance: providing very small loans, referred to as microloans, (typically \$35,000 or less) to individuals for the purpose of creating or expanding businesses.

Peer Group Lending Program (PGLP): a microfinance mechanism in which clients form groups with several other people of their choice. The group members are then responsible for monitoring and approving each other's loans in regularly held meetings. Members are also held accountable for repayment of each other's loans, thus encouraging selection of group members that are willing and likely able to repay their loans. If all the members of the group are meeting their repayment obligations, the loan process continues. Otherwise, no member of the group is eligible for future loans. This mechanism spreads risk among clients and lenders, thus reducing the cost of making microloans for lending institutions and allowing for lower interest rates than would typically be available from commercial lenders.

24. Thinking of several colleagues whom you trust, would you be willing to form a peer group and participate in a PGLP as defined above, in which you would all be responsible for repayment of each other's loans, thus reducing the interest rates available to you?

- ☐ Yes
- ☐ No
- ☐ Not Sure

25. Would you be more willing to participate in a PGLP if shared liability for each other's loans was not enforced, thus slightly reducing interest rates available to you, but not as much as in the previous scenario of a traditional PGLP?

- ☐ Very much more willing
- ☐ Somewhat more willing
- ☐ Slightly more willing
- ☐ Not at all more willing
- ☐ Not sure

26. What is the primary reason you would consider participating in a PGLP? (Please select one.)

- ☐ Group networking and support
- ☐ Ease of loan approval
- ☐ No need for collateral
- ☐ Low interest rates

Other (please specify) _____

27. What is the primary reason you would consider participating in a PGLP? (Please select one.)

- ☐ Group networking and support
- ☐ Ease of loan approval
- ☐ No need for collateral
- ☐ Low interest rates
- ☐ Shared risk

Other (please specify) _____

This final section will ask some basic demographic questions for comparison to the larger farming population.

28. What is your gender?

- ☐ Female
- ☐ Male

29. In what country were you born?

Country: _____

30. What is your racial background? (Please select all that apply.)

- ☐ White
- ☐ Black or African American
- ☐ Asian
- ☐ Native Hawaiian or other Pacific Islander
- ☐ American Indian or Alaska Native
- ☐ Other

31. Are you of Hispanic or Latino origin or descent? (Please select one.)

- ☐ Yes, Hispanic or Latino
- ☐ No, not Hispanic or Latino

32. In what ZIP code is your primary residence located? (Please enter 5-digit ZIP code.)

ZIP Code: _____

33. In what ZIP code is the main training site of your incubator located? (Please enter 5-digit ZIP code.)

ZIP Code: _____

Ineligibility

Unfortunately, you are not eligible to complete this questionnaire. Thank you for your time and interest.

Thank You

Thank you very much for your participation in this survey.
Once you hit the "Done" button, your answers will be submitted.

REFERENCES

- Beard, M. P. (2010). Reaching the unbanked and underbanked. *Central Banker*, (Winter), November 8, 2012.
- Besley, T., & Coate, S. (1995). Group lending, repayment incentives and social collateral. *Journal of Development Economics*, 46, 1-18.
- Bhatt, N., & Tang, S. (1998). The problem of transaction costs in group-based microlending: An institutional perspective. *World Development*, 26(4), 623-637.
- _____. (2001). Making microcredit work in the United States: Social, financial, and administrative dimensions. *Economic Development Quarterly*, 15(3), 229-241.
- Bradshaw, T. K. & Blakely, E. J. (1999). What are “third-wave” state economic development efforts? From incentives to industrial policy. *Economic Development Quarterly*, 13 (3), 229-244.
- Buckland, L., & Hay, M. (2012). Microfinance for wealthy countries. *Stanford Social Innovation Review*, (Spring), 66-71.
- Buckley, R. M. (2001). Microfinance in developed countries: Lessons from the World Bank's experience. In J. Carr, & Z. Y. Tong (Eds.), *Replicating microfinance in the United States*. Washington, D.C.: Fannie Mae Foundation.
- Caskey, J. P. (1994). *Fringe banking: Check-cashing outlets, pawnshops, and the poor*. New York: Russell Sage Foundation.
- Center for Financial Services Innovation and Core Innovation Capital. (2012). *2011 underbanked market sizing study*. (November).
- Costa, D., & Kahn, M. (2003). Understanding the American decline in social capital, 1952-1998. *Kyklos*, 56(1), 17-46.
- Counts, A. (2008). Reimagining microfinance. *Stanford Social Innovation Review*, (Summer), 46-53.
- County of Greenville Community Planning and Development Department. (2012). *Greenville area food system assessment: May 2011-may 2012 (draft)*. Unpublished manuscript.

- Edgcomb, E., Klein, J., & Clark, P. (1996). *The practice of microenterprise in the U.S.: Strategies, costs, and effectiveness*. The Aspen Institute.
- Eisinger, P. (1988). *The rise of the entrepreneurial state: State and local economic development policy in the United States*. Madison, WI: The University of Wisconsin Press.
- Ellickson, R. C. (1991). *Order without law: How neighbors settle disputes*. Cambridge, MA: Harvard University Press.
- Euromonitor International. (2012). Consumer lending in the U.S. Retrieved November 3, 2012, from <http://www.portal.euromonitor.com/Portal/Pages/Search/SearchResultsList.aspx>
- FIELD at the Aspen Institute. (2010). *U.S. microenterprise census highlights FY 2008 data*. Washington D.C.: The Aspen Institute.
- _____. (2012a). *2011 US microenterprise census highlights: FY2010 data*. The Aspen Institute.
- _____. (2012b). *Program index*. Retrieved September 16, 2012, from <http://microtracker.org/program-index>
- Flora, C.B. & Flora, J.L. (2008). Social capital and community. *Rural communities* (3rd ed., pp. 113-141). Boulder, CO: Westview Press.
- Grameen Bank. (2012). *Grameen bank monthly update in US\$: August 2012*. Retrieved September 16, 2012, from http://www.grameen-info.org/index.php?option=com_content&task=view&id=453&Itemid=527
- Grameen Foundation. (2012). Microfinance basics. Retrieved November 10, 2012, from <http://www.grameenfoundation.org/take-action>
- Guiso, L., Sapienza, P., & Zingales, L. (2004). The role of social capital in Financial development. *The American Economic Review*, 94(3), 526-556.
- Hicks, G. A., & Pena, D. G. (2003). Community acequias in Colorado's Rio Culebra watershed: A customary commons in the domain of prior appropriation. *University of Colorado Law Review*, 74(2), 387-486.

- Hughes, D. W., Eades, D., Robinson, K., Carpio, C., Isengildina, O., & Brown Cheryl. (2007). *What is the deal with local food systems: Or, local food systems from a regional science perspective (working paper)*. Unpublished manuscript.
- Hung, C. R. (2003). Loan performance of group-based microcredit programs in the United States. *Economic Development Quarterly*, 17(4), 382-395. doi: 10.1177/0891242403255364
- _____. (2006). Rules and actions: Determinants of peer group and staff actions in group-based microcredit programs in the United States. *Economic Development Quarterly*, 20(1), 75-96.
- Hutchins, W. A. (1928). The community acequia: Its origin and development. *The Southwestern Historical Quarterly*, 31(3), 261-284.
- Keeley, L., & Henry, D. (2010). U.S. small-business aid may create \$300 billion of "junk" loans. *Bloomberg.Com*, November 10, 2012.
- Langston, J. (2011). Farm incubators help would-be farmers succeed on their own. *High Country News*, (November), November 8, 2012.
- Ledgerwood, J. (1999). *Microfinance handbook: An institutional and financial perspective*. Washington D.C.: World Bank.
- LoanBack. (2011). Usury laws by state. Retrieved November 13, 2012, from http://www.loanback.com/category/usury-laws-by-state/#North_Carolina
- Long, L. (1988). *Migration and residential mobility in the United States*. New York: Russell Sage Foundation.
- Maltby, E. (2009). Small biz loan failure rate hits 12%. *CNNMoney.Com*, November 10, 2012.
- Martinez, S., Hand, M., Da Pra, M., Pollack, S., Ralston, K., Smith, T.,s, . . . Newman, C. (2010). *Local food systems: Concepts, impacts, and issues*. (ERR No. 97). USDA, Economic Research Service.
- Mattera, P. (2004). *USDA inc.: How agribusiness has hijacked regulatory policy at the U.S. Department of Agriculture*. Good Jobs First.
- McKernan, S., & Chen, H. (2005). *Small business and microenterprise as an opportunity- and asset-building strategy*. (No. 3). Washington, D.C.: Urban Institute.

- Morduch, J. (2000). The microfinance schism. *World Development*, 28(4), 617-629.
- National Agricultural Statistics Service. (2007a). *2007 census of agriculture: Demographics*. USDA.
- _____. (2007b). *2007 census of agriculture: Small farm facts*. USDA.
- National Consumer Law Center (NCLC). (2012). Payday loans. Retrieved December 15, 2012, from <http://www.nclc.org/issues/payday-loans.html>
- National Council of Farmer Cooperatives. (2010). Cooperative facts. Retrieved March 20, 2013, from <http://www.ncfc.org/information/cooperative-facts>
- New Entry Sustainable Farming Project. (2012). About the new entry national incubator farm training initiative (NIFTI). Retrieved November 8, 2012, from <http://nesfp.nutrition.tufts.edu/resources/nta.html>
- Opportunity Fund. (2010). *Microlending in the United States: A timeline history, 1973-2010*. San Jose, CA: Opportunity Fund.
- Personal responsibility and work opportunity reconciliation act of 1996, H.R. 3734 ENR, (1996).
- Post, J. E., & Wilson, F. S. (2011). Too good to fail. *Stanford Social Innovation Review*, (Fall), 66-71.
- Putnam, R. D. (1993a). *Making democracy work*. Princeton, NJ: Princeton University Press.
- _____. (1993b). The prosperous community: Social capital and economic growth. *Current* 356, (Spring), 4.
- Quayes, S. (2012). Depth of outreach and financial sustainability of microfinance institutions. *Applied Economics*, 44(26), 3421-3433.
- Rogers, E. M., Burdge, R. J., Korsching, P. F., & Donnermeyer, J. F. (1988). *Social change in rural societies* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Russell, T. W. (1938). Mutual water companies in California. *Southern California Law Review*, 12, 155-195.
- Sage, C. (2003). Social embeddedness and relations of regard: Alternative "good food" networks in south-west Ireland. *Journal of Rural Studies*, 19, 47-60.

- Schreiner, M., & Morduch, J. (2001). Opportunities and challenges. In J. Carr, & Z. Y. Tong (Eds.), *Replicating microfinance in the united states* (pp. 4-62). Washington, D.C.: Fannie Mae Foundation.
- Schreiner, M., & Woller, G. (2003). Microenterprise development programs in the United States and in the developing world. *World Development*, 31(9), 1567-1580.
- Sciammacco, S. (2011). The downfall of direct payments. *EWG Research*, November 10, 2012.
- Sengupta, R., & Aubuchon, C. P. (2008). The microfinance revolution: An overview. *Federal Reserve of St. Louis Review*, 90(1), 9-30.
- Servon, L. (2006). Microenterprise development in the United States: Current challenges and new directions. *Economic Development Quarterly*, 20(4), 351-367. doi: 10.1177/0891242406289355
- Servon, L., & Doshna, J. (2000). Microenterprise and the economic development toolkit: A small part of the big picture. *Journal of Developmental Entrepreneurship*, 5(3), 183-208.
- Shaffer, R., Deller, S., & Marcouiller, D. (2006). Rethinking community economic development. *Economic Development Quarterly*, 20(1), 59-74.
- Start2Farm. (2012). About the beginning farmers and ranchers development program. Retrieved November 12, 2012, from <http://start2farm.gov/beginning-farmers-and-ranchers-development-program/about>
- Strickland, W. (2011). California mutual water company basics. Retrieved March 20, 2013, from <http://privatewaterlaw.com/2011/02/18/california-mutual-water-company-basics/>
- State of North Carolina. Chapter 24: Interest, 24-1 (1979).
- State of South Carolina. Title 37: Consumer protection code, 37-10-101 (1984).
- Tropp, D. (2010). *What do we know about consumer demand for local food?* USDA Agricultural Marketing Service.
- U.S. Congress. The community reinvestment act of 1977, 801 (1977).

- U.S. Department of Health and Human Services. (2012). TANF-ACF-IM-2012-03: Guidance concerning waiver and expenditure authority under section 1115. Message posted to <http://www.acf.hhs.gov/programs/ofa/resource/policy/im-ofa/2012/im201203/im201203?page=1>
- U.S. Small Business Administration, Office of Advocacy. (2010). *U.S. static data: Employer firms, establishments, employment, and annual payroll small firm size classes, 2010*. Retrieved November 12, 2012, from <http://www.sba.gov/advocacy/849/12162>
- Wimberley, R. C., Harris, C. K., Molnar, J. J., & Tomazic, T. J. (Eds.). (2002). *The social risks of agriculture: Americans speak out on food, farming, and the environment*. Westport, CT: Praeger Publishers.
- Yunus, M. (2007). *Banker to the poor*. United States: PublicAffairs.